UNITED STATES DEPARTMENT OF COMMERCE
OFFICE OF TECHNICAL SERVICES

BIBLIOGRAPHY
OF SCIENTIFIC AND INDUSTRIAL REPORTS

Vol. 7 — *October 17, 1947* — No. 3

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* Indicates that reports in the BIOS, CIOS and FIAT series are deposited in the Library of Congress Depository Libraries. For a complete list of these libraries, see page facing page 1, volume 5, of this Bibliography.

In addition to the indexes described on the back cover of this Bibliography, the Office of Technical Services has published the following reference works:

PB L 58101. SWIFT, GRACE. Government document series, analyzed by Office of Technical Services. Jan 1947. 46 p. Price: 25¢

PB L 78000. LOWRY, W. KENNETH. OSRD reports: Bibliography and index of declassified reports having OSRD numbers. Jun 1947. 105 p. Price: 75¢

PB L 79322. SWIFT, GRACE and ORNE, JERROLD. Subject headings for technical libraries. Jun 1947. 167 p. Price: $1.50

PB L 81803. U. S. OFFICE OF TECHNICAL SERVICES, TECHNICAL INDUSTRIAL INTELLIGENCE DIVISION. Reports resulting from the investigation of German technology, 1945-1946, and index of personnel. May 1947. 207 p. Price: $5.25

Errata:

v. 6, p. 1180. PB L 70330, paging and price entries are corrected to read: "(FIAT Microfilm Reel BB 108, Frames 4274-4857) 1880-1939. 583 frames. Price: Microfilm-$6.00 - Enlargement print-$58.50."

v. 6, p. 1186. Frames 4854-4857 of PB L 70330 are erroneously listed as frames 5854-5857. (German patent 264690).

CHEMICALS AND ALLIED PRODUCTS

Chemical Engineering and Equipment

*PB L 81280. REYNOLDS, P. G. Survey of high pressure equipment designs in Germany. (FIAT Final Rept 1067). May 1947. 39 p. Price: Mimeo-$1.00

This report summarizes design information on chemical equipment used for pressures of 300 atmospheres (4500 pounds per square inch) and above. Drawings illustrate the main points of the design of converters and closures, pumps, piping and valves. Information is also included on materials of construction for parts of interest. Five appendixes include: 1) List of German personnel interviewed; 2) list of targets visited; 3) bibliography; 4) list of material evacuated; and 5) seventeen drawings and high pressure formulas.

PB L 85255. U. S. BUREAU OF ORDNANCE. Instructions for application of strippable coating (spray type, O.S. 3602). (Bound with Change 1, Jan. 28, 1946) (Pamphlet 1485 (Preliminary)) Apr 1945. 50 p. Price: Microfilm-$2.00 - Photostat-$5.00

Ordnance Pamphlet 1485 (Preliminary) is an instruction and reference manual for the application of plastic Strippable Coating (Spray Type) (Ordnance Specifications 3602). This coating can be used to provide moisture protection for many types of ordnance and other material against corrosion and deterioration. The text includes detailed instructions for the assembly and maintenance of the spraying equipment, technique of applying the coating with the necessary precautions, and reference data to insure proper application of the coating. Air pressure regulator, pressure-feed solution tanks and cups, spray guns and spray gun nozzle combinations are described. Under the heading "Detailed spray packing instructions" webbing; first, second, and third coating applications; sealing; venting; and dehumidification are discussed. Special information covers mechanical aids for controlling contour of package, spray packing precautions, technical data on O.S. 3602 coating, etc. Sixty-four pictures illustrate the text.

Miscellaneous Chemicals

PB L 73716. DEUTSCHE GOLD-UND SILBERSCHEIDEANSTALT VORM. ROESSLER, KONSTANZ. Descriptions of various chemical and metallurgical processes. (FIAT Microfilm Reel M 40, Frames 9482-9999, and Frames 1-392). 1934-1945. 910 f. Price: Microfilm-$6.00 - Enlargement print-$91.00

This FIAT microfilm reel consists of items in the field of inorganic and organic chemistry. Individual items are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
9482-9484 PB L 73716	Permeability of a highly sintered alumina material for ultra-violet rays. By Grubling, 1941. In German.	$1.50
9485-9487 PB L 73716	Determination of vitamin D in whale oils hydrogenated at different temperatures. By Grubling, 1941. In German.	1.50
9488-9495 PB L 73716	Experiments for determining the content of α and β-constituents of corundum mixtures. By Jeep, 1941. In German.	1.50
9496-9502 PB L 73716	Determination of the α and β-content of corundum mixtures. By Jeep, 1942. In German.	1.50
9503-9505 PB L 73716	Flotation experiments for the separation of mixtures of alpha-and beta-corundum. By Jeep, 1942. In German.	1.50
9506-9516 PB L 73716	Experiments for separating mixtures containing alpha-corundum. By Jeep, 1942. In German.	1.50
9517-9522 PB L 73716	Preparation of titanium dioxide aerosols. By Lohnes, 1942. In German.	1.50
9523-9526 PB L 73716	Preparation of titanium dioxide and silicic acid aerosols by splitting titanium tetrachloride or silicon tetrachloride with steam in a heated tube. By Lohnes, 1942. In German.	1.50
9527-9530 PB L 73716	Removal of hydrocyanic acid from the Friesterits cyanide melt by means of carbon dioxide. By Dimott, 1943. In German. (These frames are damaged.)	1.50
9531-9534 PB L 73716	These frames are identical with 9527-9530. (This document is undamaged.) In German.	1.50
9535-9536 PB L 73716	Removal of hydrocyanic acid from the Friesterits cyanide melt by means of hydrochloric acid. By Dimott, 1943. In German.	1.50
9537-9540 PB L 73716	Removal of hydrocyanic acid from the Friesterits cyanide melt by sulfuric acid. By Dimott-Koffler, 1943. In German.	1.50
9541-9554 PB L 73716	Water vapor pressures of sodium peroxide hydrates and of "Proxylith". By Busse, 1934. In German.	1.50
9555-9559 PB L 73716	Note regarding the discussion of questions on substitutes for tin foils and on the use of "Paladon" for dental crowns and bridges. By Czapp, 1939. In German.	1.50
9560-9564 PB L 73716	Removal of the white discoloration and preventing the formation of bubble of "Paladon". By Czapp-Miller, 1939. In German.	1.50
9565 PB L 73716	Water repellent impregnation agents. By Schulenburg, 1939. In German.	1.50
9566-9567 PB L 73716	Note regarding the production of artificial teeth from "Paladon". By Czapp, 1939. In German.	1.50
9568 PB L 73716	Note on a patent application not at hand, regarding the production of very fine glass balls. By Czapp, 1939. In German.	1.50
9569-9573 PB L 73716	Basic considerations regarding the white discoloration and bubble formation of "Paladon", and the practical removal of these phenomena. By Czapp, 1939. In German.	1.50
9574-9578 PB L 73716	Report on research conducted on "Paladon" from November 21, to December 11, 1939. By Giesing, 1939. In German.	1.50
9579-9584 PB L 73716	Prevention of the white discoloration and bubble formation	

of "Paladon". By Czapp, 1940. In German. 1.50

9585-9586 PB L 73716 — Acetyl cellulose lacquer for lacquering plaster of Paris molds used in the working of "Paladon". By Czapp, 1940. In German. 1.50

9587-9588 and 9589 PB L 73716 — Processing of the new "Paladon". By Czapp, 1940. In German. 1.50

9590-9592 9593-9596 PB L 73716 — New directions for the use of "Paladon". By Czapp, 1940. In German. 1.50

9597-9599 PB L 73716 — Meeting of the cooperative group for prosthetics and knowledge of plastic materials in Berlin on April 6-7 1940. By Czapp, 1940. In German. 1.50

9600-9601 9602-9603 PB L 73716 — Addition of grain powder to "Paladon". By Czapp, 1940. In German. 1.50

9604-9608 PB L 73716 — Preparation of chlorine dioxide or sodium chlorite from potassium chlorate, sulfuric acid and oxalic acid. By Gretschmann, 1945. In German. 1.50

9609-9616 PB L 73716 — Corrosion of silver in hydrofluoric acid at different temperatures. By Gretschmann, 1945. In German. 1.50

9617-9620 PB L 73717 — Dyeing of rocks by means of ferrocyanides. By Herrmann. In German. 1.50

9621-9624 PB L 73716 — Production of colloidally-soluble Berlin Blue. By Herrmann, 1939. In German. 1.50

9625-9627 PB L 73716 — Production and testing of the active material for the carbon monoxide filter. By Herrmann, 1940. In German. 1.50

9628-9634 PB L 73716 — Preparation of a carbon monoxide catalyst from $KMnO_4$ by the use of organic reducing agents. By Herrmann, 1940. In German. 1.50

9635-9636 PB L 73716 — Scratch test for pentaerythritol resins. By Herrmann, 1941. In German. 1.50

9637-9643 PB L 73716 — Production of cyanides from calcium cyanamide using NaCl and NaF as fluxing materials. By Herrmann, 1941. In German. 1.50

9644-9649 PB L 73716 — Abrasion resistance of pentaerythritol resins. By Herrmann, 1941. In German. 1.50

9650-9653 PB L 73716 — Sodium chlorite from chlorine dioxide and sodium peroxide. By Herrmann, 1942. In German. 1.50

9654-9662 PB L 73716 — Catalytic decomposition of hydrogen peroxide (approximately 40% by volume) by means of different metals at room temperature and at 70° C. By Laubel-Kieselguhrer, In German. 1.50

9663-9667 PB L 73716 — Preparation of a 13% beryllium nitrate solution. By Jager, 1936. In German. 1.50

9668-9671 PB L 73716 — Preparation of very pure beryllium oxide. By Jäger, 1936. In German. 1.50

9672-9676 PB L 73716 — Production of beryllium. By Wille and Jäger, 1936. In German. 1.50

9677-9684 PB L 73716 — Project of a plant for a monthly production of 500 kg. of beryllium metal. By Jager, 1936. In German. 1.50

9685-9690 PB L 73716 — Copper beryllium test melt for determining the losses by burning. By Jäger, 1936. In German. 1.50

9691-9712 PB L 73716 — Beryllium pilot plant. By Jäger, 1936. In German. 2.50

9713-9714 PB L 73716 — Production of colloidal silicic acid. By Klöpfer, 1940. In German. 1.50

9715-9721 PB L 73716 — Production of sodium cyanide from sodium carbonate, coal and nitrogen. By Klopfer, 1940. In German. 1.50

9722-9725 PB L 73716 — Removal of hydrocyanic acid from sodium cyanide by means of carbon dioxide : production of hydrocyanic acid from the products of the cyanide synthesis on the basis of sodium carbonate, coal, and nitrogen. By Klopfer, 1941. In German. 1.50

9726-9729 PB L 73716 — Preparation of sodium cyanide from soda, coal and nitrogen : Experiments with various catalysts. By Klöpfer, 1941. In German. 1.50

9730-9737 PB L 73716 — Preparation of sodium cyanide from soda, coal, and nitrogen: Experiments in a pit furnace having an interior diameter of 80 mm. By Klöpfer, 1941. In German. 1.50

9738-9743 PB L 73716 — Experiments for producing sodium cyanide from soda, coal and nitrogen in a revolving tube. By Klopfer, 1941. In German. 1.50

9744-9749 PB L 73716 — Production of silicic acid aerosol of different qualities. By Klöpfer, 1941. In German. 1.50

9750-9758 PB L 73716 — Production of silicon tetrachloride. By Klöpfer, 1942. In German. 1.50

9759-9764 PB L 73716 — Continuous production of sodium cyanide from soda, coal, and nitrogen in a pit furnace with an inside diameter of 100 mm. By Klöpfer, 1942. In German. 1.50

9765-9770 PB L 73716 — Preparation of $SiCl_4$ on a large scale. By Klöpfer, 1943. In German. 1.50

9771-9773 PB L 73716 — Report on the visit at the Stickstoffbindings-Ind. "Nederland", Dortrecht, on May 6-7 1943. By Andrich, Klöpfer, and Friedrich, 1943. In German. 1.50

9774-9778 PB L 73716 — Description of the cyanide process of the Stickstoffbindings-Ind. "Nederland" at Dortrecht. By Andrich, Klopfer, and Friedrich, 1943. In German. 1.50

9779-9793 PB L 73716 — Preparation of silicic acid KS by means of an apparatus measuring 2 m. in length. By Klöpfer, 1943. In German. 1.50

9794-9799 PB L 73716 — Proposals for the improvement of the silicic acid KS equip-

ment, based on experiences made during mounting and starting. By Klöpfer, 1944. In German. 1.50

9800-9806 PB L 73716 — KS silicic acid from silicon tetrachloride. By Klöpfer, 1944. In German. 1.50

9807-9808 PB L 73716 — Electrolytic deposition of iridium. By Menzel, 1937. In German. 1.50

9809-9810 PB L 73716 — Precipitation of combinations of metals of the platinum group and of other platinum alloys. By Menzel, 1937. In German. 1.50

9811-9812 PB L 73716 — Precipitation of the platinum metals Pt and Pd as such and in combination with Ag, Ni, Cu, Sn, Zn, and Cd in solutions of potassium cyanide. By Menzel, 1937. In German. 1.50

9813 PB L 73716 — Silver-gold-zinc bath. By Menzel, 1937. In German. 1.50

9814-9820 PB L 73716 — Production of carbon black from carbon monoxide. By Nees, 1936. In German. 1.50

9821-9838 PB L 73716 — Recrystallization of $NaBO_2.H_2O_2.3\ H_2O$ from an aqueous solution and its solubility in water. By Nees, 1937. In German. 2.00

9839-9847 PB L 73716 — Stability of detergents ("D-mixtures") with and without addition of stabilizing agents. By Nees, 1938. In German. 1.50

9848-9849 PB L 73716 — Stability of alkaline solutions of hydrogen peroxide in the presence of iron and nickel ions. By Nees, 1938. In German. 1.50

9850-9859 PB L 73716 — Suitability of different stabilizing agents for the stabilization of addition compounds obtained from hydrogen peroxide and trimeric sodium metaphosphate. By Nees, 1938. In German. 1.50

9860-9876 PB L 73716 — Depolarization of anodic processes for the synthesis of compounds at the anode, and their utilization for improving cathodic processes. Preferred are reactions on porous anodes, in which case the depolarizer is passed to the outside through the interior of the anode. By Nees, 1938. In German. 2.00

9877-9883 PB L 73716 — Experiments for preparing a sodium tripoly phosphate H_2O_2 addition compound. By Nees, 1938. In German. 1.50

9884-9891 PB L 73716 — Preparation of cerium metal by electrolysis in the molten state. By Nees, 1938. In German. 1.50

9892-9918 PB L 73716 — Judging the activity of carbon blacks by recording their adsorption isotherms for CE_2 CH_2 and determining their adsorption of methylene blue. By Nees, 1938. In German. 3.00

9919-9942 PB L 73716 — Production of chromium metal by electrolysis in the molten state using the "porous depolarized anode". By Nees, 1938. In German. 2.50

9943-9961 PB L 73716 — Preparation of light perborate. By Nees, 1938. In German. 2.00

9962-9963 PB L 73716 — Production of chromium by electrolysis in the molten state. By Nees, 1938. In German. 1.50

9964-9971 PB L 73716 — Formation of H_2O_2 from water and oxygen. By Nees, 1938. In German. 1.50

9972-9981 PB L 73716 — Investigation of cartridges developing oxygen. By Nees, 1938. In German. 1.50

9982-9987 PB L 73716 — File note concerning plant experiments with active oxygen. By Nees, 1938. In German. 1.50

9988-9991 PB L 73716 — Preparation of Na_2O_2 in revolving tubes of nickel and iron. By Nees, 1939. In German. 1.50

9992-9999 1-3 PB L 73716 — Visit at Rheinfelden concerning the production of active oxygen compounds. By Nees, 1939. In German. 1.50

4-12 PB L 73716 — Visit at Weissenstein: experiences with the production of active oxygen. By Nees, 1939. In German. 1.50

13-15 PB L 73716 — Analysis of acetone peroxide. By Nees, 1939. In German. 1.50

16-19 PB L 73716 — Preparation of percarbonate from sodium peroxide, carbon dioxide and hydrochloric acid. By Nees, 1940. In German. 1.50

20-24 PB L 73716 — Discussion regarding percarbonate. By Nees, 1940. In German. 1.50

25-28 PB L 73716 — Preparation of sodium percarbonate according to DuPont's German patent application 78 330. By Nees, 1940. In German. 1.50

29-33 PB L 73716 — Modern method for the production of percarbonate. By Nees, 1940. In German. 1.50

34-36 PB L 73716 — Compilation of and criticism on procedures for the production of hydrogen peroxide. By Nees, 1940. In German. 1.50

37-49 PB L 73716 — Table presenting the most important per compounds. By Nees, 1940. In German. 1.50

50-63 PB L 73716 — New cells for the electrolytic production of per compounds. By Nees, 1940. In German. 1.50

64-69 PB L 73716 — Vertical cells with cooled electrodes for the electrolytic production of per compounds. By Nees, 1940. In German. 1.50

70-79 PB L 73716 — Testing of "PeCe", "Alkazid", and glass fabrics for their suitability for diaphragms. By Nees, 1940. In German. 1.50

80-112 PB L 73716 — Production of percarbonate from Na_2O_2, CO_2 and HCl. By Nees, 1940. In German. 3.50

113-115 PB L 73716 — Stabilizing effect of dried magnesium silicate. By Nees, 1940. In German. 1.50

116-137 138-142 PB L 73716 — Testing the resistance of aluminum to H_2O_2. By Nees, 1940. In German. 2.50

Miscellaneous Chemicals (contd)

143
PB L 73716 — Directions for the preparation of $Na_4P_2O_8$ from $(NH_4)_4P_2O_8$ in the laboratory. By Nees, 1941. In German. 1.50

144-211
PB L 73716 — Preparation of beryllium aluminum alloys. 1941. In German. 7.00

212-274
PB L 73716 — Washing and bleaching in baths containing active oxygen. By Nees, 1942. In German. 6.50

275-276
PB L 73716 — Preparation of beryllium-light metal alloys. By Nees, 1942. In German. 1.50

277-278
PB L 73716 — Anodic rectifying effect of metals suitable as carrier metals for platinum. By Nees, 1942. In German. 1.50

279-287
PB L 73716 — Preparation of beryllium-aluminum alloys. By Nees, 1942. In German. 1.50

288-294
PB L 73716 — Behavior of zirconium towards persulfuric acid and hydrogen peroxide. By Nees, 1942. In German. 1.50

295-298
PB L 73716 — Behavior of platinum covered wires during the electrolysis of persulfuric acid. By Nees, 1942. In German. 1.50

299-301
PB L 73716 — Current efficiency in the formation of persulfuric acid using Pt-Ir gauze ("E-Salt Gauze") and pure platinum. By Nees, 1942. In German. 1.50

302-305
PB L 73716 — Beryllium in light metal alloys. By Nees, 1942. In German. 1.50

306-321
PB L 73716 — Stabilization and bleaching experiments in washing solutions. By Nees, 1944. In German. 2.00

322-330
PB L 73716 — Bleaching experiments with sodium chlorate. By Nees, 1944. In German. 1.50

331-350
PB L 73716 — Experiments for producing boric acid from Rheinfelden borax. By Nees, 1944. In German. 2.00

351-352
PB L 73716 — Experimental mixing of lamp black 100 S with iron oxide black KND. By Colmann, 1939. In German. 1.50

353-371
PB L 73716 — Determination of the specific electrical resistance and the apparent specific volume of carbon black. By Colmann, 1939. In German. 2.00

372-386
PB L 73716 — Preparation of a black material capable of being rolled. By Stapelfeld and Colmann, 1940. In German. 1.50

387-392
PB L 73716 — Analytic methods of investigating Buna and rubber mixtures. By Colmann, 1940. In German. 1.50

PB L 73716-S. DEUTSCHE GOLD-UND SILBERSCHEIDEANSTALT VORM. ROESSLER, KONSTANZ. Descriptions of various chemical and metallurgical processes. (FIAT Microfilm Reel M 40, Frames 9482-9999, and Frames 1-392, abstract cards). 1934-1945. 121 p. Price: Microfilm-$3.00 - photostat-$9.00
These are short abstracts of the items on reel M 40 (PB L 73716), described above. They were prepared by FIAT abstracters in Germany.

* PB L 78650. FREUDENBERG, KARL and others. The Schardinger dextrins from starch. (FIAT Final Rept 1096). May 1947. 9 p. Price: Mimeo-$0.25
This study, which was carried out in the Chemical Institute of Heidelberg University, reinvestigates methods of isolation and properties of the α-, β-and γ-dextrins, first isolated in crystalline state from starch by Schardinger. Analysis and molecular weight determinations indicate α-dextrin to be a cyclic pentose and β-dextrin to be a cyclic hexose. γ-dextrin has a higher carbon and hydrogen content than either α-or β-dextrin. Other less soluble dextrins were also isolated. In German.

PB L 52009. GERMANY, REICHSAMT FÜR WIRTSCHAFTSAUSBAU. Chemische Berichte, Dec 1941. First meeting of the cooperative group for alumina, Mar 14, 1941. Dec 1941. 76 p. Price: Microfilm-$2.00 - Photostat-$6.00
Individual items are listed below and will be available as photostat copies only. The entire publication may be purchased in microfilm form for $2.00. Please include PB and page numbers when ordering individual items. In German.

Pages	Title	Price
180 PB L 52009	Instructions. In German. This page contains 9 administrative rules and instructions for the meetings of the cooperative groups to facilitate research for the "four year plan." These meetings were sponsored by the "Reichsamt fur Wirtschaftsausbau Berlin" (Reich office for economic development).	$1.00
181-183 PB L 52009	List of participants. In German. The names of the representatives of various governmental agencies, industrial enterprises, universities, etc., who were present at the meeting are listed.	1.00
184 PB L 52009	BAUR (Reichsamt für Wirtschaftsaufbau, Berlin). Introductory remarks. In German. Purpose of the meeting and recent tasks of the cooperative group for alumina are outlined.	1.00
185-192 PB L 52009	NEUKIRCH, E. (Reichsamt für Wirtschaftsaufbau, Berlin). Procedures and materials in the recovery of alumina for the aluminum industry. In German. Industrial practice in Europe in the production of alumina, and new exptl. approaches, are discussed. The 2 main industrial processes are the dry and Bayer processes. In the former, bauxite is mixed with 10% to 20% burned lime and fresh, ground calcined soda, and the mixt. calcined in a rotary furnace at about 1000°. The filtered leach is heated, usually under pressure, to remove SiO_2 as $NaO.Al_2O_3.SiO_2.2H_2O$. Alumina hydrate is recovered from the clear soln. by treatment with a deficiency of CO_2. In the Peniakoff variation, practiced in Ludwigshafen, sodium sulfate and coal are used in place of soda ash. Many plants combine the dry and Bayer processes. In Germany, the discontinuous Bayer leach is replaced by a continuous leach of lump bauxite, which avoids filtration of the residue. In the Pedersen process 2 parts bauxite, 1.6 parts limestone, and 0.2-0.3 parts coke are fused in a 3-phase oven with	1.00

Söderberg electrodes. The Fe seps. from a CaO-Al_2O_3-SiO_2 slag that dusts on standing. The slag is leached with 2% soda at 40° and the alumina hydrate is recovered from soln. with CO_2. The furnace power per kg. Al_2O_3 is 4.2 kw.-hrs. for high-Fe Grecian bauxite, and about 4.5 kw.-hrs. for other bauxites. Because of the high power requirements, the Pedersen process is suitable only when power is cheap. In the Haglund electrothermic process, the bauxite is melted to corundum in the presence of much Fe which yields an Fe-Si-Al-Ti alloy. A difficulty is the high m.p. of the corundum, 2050°. This has been overcome recently by adding Al sulfide which forms a low-melting soln. with Al_2O_3. In a later development, magnetic iron pyrite, or other heavy metal sulfide, has been employed. The process did not succeed in an Italian plant mainly because of difficulties in handling a S slag. Of the acid processes, the treatment of calcined clay with sulfurous acid at 7 atm. and 50° has been carried out on a large scale in Lautawerk. The sulfite soln. is freed of some of its SO_2 at 90°, when a basic Al sulfite is pptd. Upon heating the latter at 600° to 650°, an alumina is obtained that is used for low-grade metal or is treated by the Bayer process. Among the tech. difficulties, corrosion of the autoclave and compressors by the SO_2 has been particularly marked. In Bitterfeld, the extn. of clay with HCl was carried out on a large scale in 1914-1918. $AlCl_3$ was obtained by passing dry HCl into the soln. The method was abandoned for economic reasons, but has again seemed promising on the basis of new corrosion-resistant materials. Labradorite has been leached with 40% HNO_3 and the soln. treated with lime to give $Ca(NO_3)_2$ and basic Al carbonate. The latter is treated with 5% NaOH, and thence worked up as in the Bayer process. Lime sinter processes, employing extn. of the slag with water or with soda, are under consideration. The Pedersen process has been applied on a large scale in Norway to andalusite and to labradorite, but the power requirement of 11 kw.-hrs. per kg. of Al_2O_3 was high.--From Chemical Abstracts.

193-196
PB L 52009

GINSBERG, H. (Vereinigte Aluminiumwerke, Berlin). Current problems in the digestion of bauxite of the United Aluminum Works A. G. In German. 1.00

Differences in hardness of bauxites greatly affected the output of grinding units. Filtration of the red mud was greatly facilitated by the interposition of thickeners. Continuous digestion of bauxite with avoidance of crushing and filtration was effected by the use of towers contg. lump bauxite. Dust in the alumina kilns has constituted 50% or more of the output. The red mud has served as gas purifier and as contact mass for synthesis gas. Cr and V have accumulated in the leach liquors. The Cr was removed as Cr_2O_3 hydrate by treatment with Na_2S, or as Fe alum by treatment with $FeSO_4$. -- From Chemical Abstracts.

197-200
PB L 52009

GENECKE, F. (Martinswerk G. m. b. H., Bergheim/Erft.) Problems in the extraction of bauxite at the Martin Works. In German. 1.00

The two principal problems have been the loss of soda and alumina due to the formation of insol. $Na_2O.Al_2O_3.2SiO_2$ (red mud), and the decompn. of the final Na aluminate soln. by seeding with pptd. $Al(OH)_3$. The loss of soda is calcd. on the basis that the red mud consists of 35% Al_2O_3, 35% SiO_2, and 25% Na_2O and that about 2/3 of the SiO_2 in the bauxite reacts. The presence of TiO_2 also occasions a loss of soda, to the extent of 39 parts Na_2O/100 parts TiO_2. The red mud can be calcined with lime to recover soda and alumina. Colloid effects are of importance in the decompn. of Na aluminate soln.--From Chemical Abstracts.

201-208
PB L 52009

RÜTER, H. (Gebr. Giulini G. m. b. H., Ludwigshafen). The decomposition of bauxite with sodium sulfate and coal. In German. 1.00

The early background of the Peniakoff process is reviewed. This process has been long operated at Ludwigshafen by Guilini. The mixt. must be such that a Na-Fe-S compd. is avoided and all of the S is liberated as SO_2. The rotary kiln must be sufficiently long and divided into an oxidizing and a reducing zone.--From Chemical Abstracts.

209-212
PB L 52009

GINSBERG, H. (Vereinigte Aluminiumwerke, Berlin). Electrothermic processes for alumina. In German. 1.00

In the Haglund process bauxite, coke, and pyrite are fused, yielding Fe and a slag of AlO_3 dissolved in Al_2S_3. A principal difficulty with this process has been the high retention of Ti by the Al_2O_3 after hydrolysis of the sulfide with steam and acid. In the Pedersen process, lime is used in place of pyrite. At the Hoyanger works in Norway, employing this process, 4200 to 4500 kw.-hr./ton have been required for bauxite, and 12,000 for labradorite. In the Lonza works' modification of the Pedersen process, CaC_2 is produced and is recirculated as a reducing agent. The Pedersen process is less sensitive to the SiO_2 content of the ore and requires a lower furnace temp. An excess of CaO in the raw mix is not recommended. At Hoyanger it has been feasible to use a two-stage extn.; in the first an excess of slag of cement-fineness is employed. The final liquor contg. pptd. trihydrate is centrifuged. The supernatant liquor contains about 10-20% solid. The slag residue may

be used for fertilizer or cement raw material.--From Chemical Abstracts.

214-216
PB L 52009
GINSBERG, H. (Vereinigte Aluminium werke, Berlin.) Recovery of alumina from clay by decomposition with sulfurous acid. In German. 1.00
This process has been carried through the pilot-plant stage jointly by Goldschmidt Co., and United Aluminum Works Co. The clay is calcined at 800°, and while in lump form is continuously extd. with H_2SO_3 contg. 200 g. SO_2/l. at 50-60°. SO_2 is removed from the ext. liquor contg. 20-40 g. Al_2O_3/l. by means of steam. The residual basic Al sulfite is redissolved in SO_2 soln., and repptd. as cryst. $Al_2O_3.2SO_2.6H_2O$. This product, contg. some sulfate, is calcined in 2 stages. The Al_2O_3 thus produced is unsatisfactory because of its high content of TiO_2, Cr, and V. The residual basic Al sulfite is calcined and the product is dissolved in NaOH at 90°. Bayer pptn. and calcination are then employed to obtain a pure Al_2O_3. Instead of by calcination, the SO_2 in the residual sulfite can be eliminated by treating the suspension at temps. up to 160° and at 4-5 atm. The hydrated Al_2O_3 so obtained, contg. 3-6% S, is readily sol. in NaOH. Instead of soln. in NaOH, it can be calcined directly. Current problems include improving the extn. of the Al_2O_3 from the clay, which is only 80% and is affected by the Fe content, and diminishing the recurring oxidation of recycled SO_2 to SO_3. The silica residue has use as addn. to hydraulic lime and cement, but new uses must be found for its complete utilization.--From Chemical Abstracts.

217-220
PB L 52009
SUCHY, R. (I. G. Farbenindustrie A. G., Bitterfeld). Acid processes for the recovery of alumina from clay. In German. 1.00
Best yields in the extn. of Al_2O_3 from calcined clay are given by H_2SO_4 (95%) followed by HCl (85%), HNO_3 (80%), and H_2SO_3 (70%), the effect being related to the max. feasible temp. of extn. In the Wolfen works of I. G. Farbenindustrie, a concd. soln. of Al sulfate is calcined with Na_2SO_4 or $CaSO_4$ to yield a Na or Ca aluminate and a byproduct of soda or H_2SO_4. Al_2O_3 is recovered from the aluminate by known procedures. The HNO_3 extn. involves high cost of the acid, and the HCl extn. involves problems of corrosion, high heat requirement, and difficulty of recovering the HCl. Extn. with formic acid and oxalic acid, with resultant calcination to oxide, is uneconomic because of destruction of the acids.--From Chemical Abstracts.

221-225
PB L 52009
DYCKERHOFF, W. (Portland-Zementwerke A. G., Mainz-Amöneberg). Development of the Dyckerhoff process for alumina. In German. 1.00
Al_2O_3 is recovered from ashes or coal-washing refuse by a lime-sinter process. In the raw materials the ratio by wt. of SiO_2 to Al_2O_3 is 1.2-1.7; much Fe_2O_3 is present in variable amt. The ratio of limestone to ash is 1.7. The calcination yields $CaO.Al_2O_3$, and β-2 $CaO.SiO_2$, which dusts to the γ-form and is used in making a high-iron portland cement. The $CaO.Al_2O_3$ is extd. at 50° with Na_2CO_3 soln. to yield a Na aluminate soln., from which Al_2O_3 hydrate is obtained by treatment with CO_2. The mother liquor from the last operation is recycled. The Al_2O_3 contains about SiO_2 0.05, CaO 0.01, and Fe_2O_3 0.01%. Difficulties are the extreme dilm. of the solns., which contain 2 g. Al_2O_3/l., and the excessive fineness of the Al_2O_3 hydrate that is pptd. by CO_2.--From Chemical Abstracts.

226-231
PB L 52009
NOLL, W. (I. G. Farbenindustrie A. G., Leverkusen). Development of the alumina-cement process at Leverkusen. In German. 1.00
The process has been applied on a pilot-plant scale by I. G. Farbenindustrie to ashes and coal-washing refuse, which may contain over 30% Al_2O_3. The lime sinter contains β-Dicalcium silicate, which inverts and dusts to the γ-form; this greatly facilitates grinding. The inversion is affected by impurities, and by tempering the sinter at 1100-1350°. The sinter, contg. 10% Al_2O_3, is extd. with a 1.8 M Na_2CO_3-$NaHCO_3$ soln. of regulated pH and yields a soln. contg. 80 g. Al_2O_3/l. and 2 g. SiO_2/l. The latter is reduced to 0.1 g./l. by treatment with MgO. Desilication under pressure to yield a Na Al silicate was not reliable. The desilicated soln. is not stable, and tends to ppt. $Al(OH)_3$ spontaneously. The residue of the extn. is employed for cement manuf. and yields 8 to 10 tons of cement per ton of Al_2O_3.--From Chemical Abstracts.

232-240
PB L 52009
Discussion. In German. 1.00
The various problems arising during the discussion of the above lectures and the critical remarks and the supplementary suggestions made are summarized.

241-251
PB L 52009
HINZ, A. and MEYER, G. (Technisch-chemischen Institute, T. H. Berlin). Degradation reactions of hydrogenated furfural condensation products. In German. 1.00
Details are given of the prepn. of 2-furanacrolein (I) (88%), Et 2-furanacrylate (II) (80.6%), Et γ-furfurylidenecrotonate (III) (73%), 5-(2-furyl)-2,4-pentadienal (IV) (34%), 1-(2-furyl)-5-oxo-1,3-hexadiene (V) (71.4%), and 1,9-di(2-furyl)-5-oxo-1,3,6,8-nonate-

traene (VI) (86.2%). Catalytic reduction of 50 g. (I) over 0.5 g. Raney Ni at 175-80°/200-50 atm. gives 16% tetrahydro-2-furanpropanol (VII); 50 g. (I) in 100 g. EtOH gives 92% (VII). (II) (100g.) in 60 cc. EtOH (1 g. Raney Ni) at 110-20° gives first Et 2-furanpropionate (b_{10} 108-10°); further reduction at 115° (16-20 hrs.) gives 92% Et tetrahydro-2-furanpropionate (VIII), b_{10} 105-6°. (III) (80 g.) in 80 cc. EtOH, reduced at room temp. and then at 180° (16 hrs.), gives 90% Et tetrahydro-2-furanvalerate (IX), b_{10} 123-31°. (IV) (50 g.) in 100 g. EtOH, reduced at room temp. and then at 170°, gives 90% tetrahydro-2-furanpentanol, b_{10} 141-2°. (V) (100 g.) in 60 cc. EtOH, reduced 6 hrs. at room temp. and 16 hrs. at 175° gives 84% 1-methyl-5-(tetrahydro-2-furyl) pentanol (X), b_{10} 135-7°. (VI) gives 81% 1,9-bis(tetrahydro-2-furyl) -5-hydroxynonane (XI), b_{10} 220-40°. (VII) (130 g.), 400 g. Ac_2O, and 0.1 g. anhyd. $ZnCl_2$, heated 4 hrs. at 220° (in vacuo), give 80% diacetate of 1,7-dihydroxy-3-heptene (XII), pale yellow, b_{10} 140-2°. (XII) (21.4 g.) and 16 g. $Ba(OH)_2$, heated 5 hrs. at 105°, give 90% 1,7-dihydroxy-3-heptene, b_{10} 142-8°; catalytic reduction in EtOH at 150°/140 atm. (6 hrs.) gives 99% 1,7-heptanediol (the bis(phenylurethan) shows a transformation point at 129° and m. 137-8°). As a byproduct of (XII) there results 12% 1,3,7-heptanetriol triacetate, b_{10} 148-9°. (VIII) (100g.) 180 g. Ac_2O, and $ZnCl_2$, heated at 210-15°, give 60% Et 4,7-diacetoxyheptanoate, $AcO(CH_2)_3CH(OAc)(CH_2)_2CO_2Et$, b_{10} 178-80°. (VIII) (100 g.), treated 24 hrs. at the b.p. with HCl, gives 7-chloro-4-hydroxyheptanoic acid lactone, b_{10} 160°; the same lactone results in 92% yield by treating 86 g. (VIII) at 70° with 65 g. $SOCl_2$ during 1 hr. and stirring an addnl. 2 hrs. (IX) (100 g.), 150 g. Ac_2O, and 0.2 g. $ZnCl_2$, heated 4 hrs. at 210-20°, give 65% of an Et 9-acetoxy-6(?)-nonenoate, $AcO(CH_2)_2CH{:}CH(CH_2)4CO\ Et$(?), b_{10} 163-5°; hydrolysis with aq. $Ba(OH)_2$ gives Et 9-hydroxynonenoic acid, b_{11} 168°; the position of the double bond was not established. (X) (86 g.), 225 g. Ac_2O, and 0.1 g. $ZnCl_2$, heated 3 hrs. at 215°, give 14.5% 1-methyl-1, 6,10-decanetriol diacetate, b_{10} 198-200°. (XI) (71 g.), 130 g. Ac_2O, and 0.1 g. $ZnCl_2$ give a mixt. of approx. 50% heptadecatriene-diol diacetate and 50% of the heptadecadienetriol triacetate, b_{10} 234-42°.--From Chemical Abstracts.

252 PB L 52009 — Table of contents. In German. XII publications covering the meetings of the various cooperative groups up to December 1941 are listed. — 1.00

253-255 PB L 52009 — Author index. In German. The names of authors of papers presented at the first meetings of six cooperative groups (PB L 52002-52007) are listed. — 1.00

256 PB L 52009 — Errata. In German. Errors in former issues are connected. — 1.00

PB L 52016. GERMANY. REICHSAMT FÜR WIRTSCHAFTSAUSBAU. Chemische Berichte July 1942. Meeting of the cooperative group for "Cold light by means of luminescent substances." Jul 1942. 110 p. Price: Microfilm-$3.00 - Photostat-$8.00

The individual items are listed below and will be available as photostat copies only. The entire publication may be purchased in microfilm form for $3.00. Please include PB and page numbers when ordering individual items. In German.

Pages	Title	Price
478-479 PB L 52016	Fifty years of Lenard phosphors. In German. The achievements of Lenard and their consequences are summarized in honor of his 80th birthday.	$1.00
482 PB L 52016	Instructions. In German. This page contains 9 administrative rules and instructions for the meetings of the cooperative groups to facilitate research for the "four-year plan." These meetings were sponsored by the "Reichsamt für Wirtschaftsausbau Berlin" (Reich office for economic development).	1.00
483-485 PB L 52016	List of participants. In German. The names of the representatives of various governmental agencies, industrial enterprises, universities, etc., who were present at the meeting are listed.	1.00
486 PB L 52016	Opening remarks. In German. After introductory remarks on the purpose of the cooperative groups in general recent problems of the group for "Cold light by means of luminescent substances" are briefly stated.	1.00
487-501 PB L 52016	WESCH, LUDWIG. Newer results with Lenard phosphors. In German. The work of the preceding 6 years is discussed. ZnSe, ZnTe, CdSe, CdTe, HgS, and HgSe were prepd. in a high-pressure furnace at 350 atm. Mixts. of ZnS and CdSe (or ZnSe) were heated with a flux, KCl, and an activator, Ag or Cu. Only at high pressures were reproducibly stable substances of fine particle size obtained; at normal pressures recrystn. occurred. The emission spectra of these mixts. are shown. The efficiency of ZnS-ZnSe is greater than that of ZnS-CdS, increasing with the energy of the exciting electron beam. The DK-effect (increase in polarization during irradiation) is discussed, with data for CdS (80%)-CdSe (20%)-Cu indicating a strong max. at 0.00075 (%?) Cu. The secondary electron emission of various prepns. is given, that of ZnS-ZnSe being greater than that of CdS. The spectral sensitivity of these phosphors is displaced to the infrared in the increasing order S-Se-Te, being related to the at. distances in the primary crystals.--From Chemical Abstracts.	1.00
502-507 PB L 52016	TESKE, W. Production of inorganic luminous materials. In German. Summary of problems involved in the manuf. of phosphors, with a general outline of the processes used for the sulfides. Activators are mentioned: Cu for ZnS, Bi for alk. earth sulfides. The effects of variations	1.00

in calcining are discussed, such as temp., presence of sulfates and chlorides, and choice of org. matter for reduction. The major problems are the prepn. of useful phosphors at low temp., the production of fine-grained materials, the prepn. of non-blackening ZnS, a study of the function of various reduction media, and the measurement of luminous colors.--From Chemical Abstracts.

508-516 PB L 52016 PODSCHUS, H. Technical zinc sulfide as a luminous material. In German. 1.00

Methods of prepg. ZnS phosphors and their properties are summarized. ZnS is pptd. from $ZnCl_2$ with BaS. During calcining at 100-1200°, the particle size is increased. Addn. of 0.01% Co when chlorides are present stabilizes the product toward light. For an activator for long afterglow, Cu is used at $5-7 \times 10^{-5}$ g./g. ZnS. Traces of Ni are harmful. The max. emission spectra from ZnS-Cu phosphors are 520-80 mμ, appearing green or yellow according to the manner of prepn. The intensity of afterglow is measured with a photocell by use of a filter to correct for bright or dark adaptation of human eyes. The effects of various binding materials on ultraviolet absorption are discussed.--From Chemical Abstracts.

517-543 PB L 52016 TOMASCHEK, RUDOLF. The phosphorescence spectra as an aid in the investigation of the structures of solid and liquid substances. In German. 2.00

Fluorescence line spectra are used in the study of compds. of the rare earths with relation to the disorder of the crystal lattice, the symmetry and intensity of the inner fields of force, the existence of different modifications or compds., and the fine details of the at. structure in the presence of other atoms. The spectra of Sm in various oxides, sulfides, and fluorides are given. The spectra of Eu are given for a variety of forms: in the cryst. state as the nitrate, oxalate, sulfate, and ethyl sulfate; in cryst. and glassy combinations with SrO and B_2O_3; in soln. as the nitrate, sulfate, or acetate; in org. glasses or polymerization products (methacrylates); in mixts. of MgO produced by various methods. Considering the problem of energy transfer in phosphors, T. concludes that the exciting process for rare earths in CaO or SrO occurs in the base materials, causing the energies to be emitted. The problem of the chem. structure of phosphorescence centers is discussed.--From Chemical Abstracts.

544-552 PB L 52016 SCHÖN, M. Mechanism of luminous inorganic phosphors under ultraviolet and electron excitation. In German. 1.00

Review.--From Chemical Abstracts.

553-561 PB L 52016 WOLF, M. Radioactively excited luminous materials. In German. 1.00

The brightness of Ra-ZnS mixts. falls off with age more rapidly for stronger prepns. For every prepn. there is an optimum thickness of application for greatest brightness.--From Chemical Abstracts.

562-576 PB L 52016 SCHLEEDE, A. Excitation and absorption (of luminous materials) as affecting brightening and fading and light output. In German. 1.00

Samples of phosphors were exposed to ultraviolet light or to an electron beam, and the intensity of the emitted light was measured. Light from a Hg lamp was passed through an interruptor and a monochromator to the sample; electrons of 1.5-kv. energy were used. The phosphor was excited for an instant; the emitted light grew stronger and faded away, being registered on a photocell connected to an oscillograph. Diagrams of the impulses are shown for ZnS, Zn_2SiO_4-Mn, MgS-Bi, and CaS-Bi phosphors. Curves are drawn for the intensity (J) of ZnS and Zn_2SiO_4-Mn, with log J plotted against time t, and log t. From the impulse diagrams the light yield was estd.: for pure ZnS it was much lower at 365 mμ than at 313 mμ, whereas this difference was not observed for ZnS-CdS-Ag or ZnO phosphors.--From Chemical Abstracts.

577-585 PB L 52016 HÜTTENAUER, A. Ultraviolet-excited luminescent light sources. In German. 1.00

This describes 0.5-1.0-m. Hg-W tubes for 220 v., having phosphors fritted to the inside wall. Efficiencies are shown to be several times those of W incandescent lamps. The spectral distribution of the daylight tube compares favorably with daylight, and numerous applications are suggested.--From Chemical Abstracts.

586-615 PB L 52016 PFLAUMER, K. Organic luminous materials. In German. 2.00

Fluorescence and chemiluminescence are reviewed briefly, with a more detailed account of phosphorescence and luminescence. The luminescence and afterglow of seven carbazole derivs. are shown to vary with substitution, the N-cyanoethylcarbazole having high values. Data are given for various acids and ketones. An afterglow of 84 sec. was obtained with a 1:1 mixt. of boric acid and glycerol, with Coronen; 47 sec. with a urea-formaldehyde resin and Coronen. Seven luminescent products of I. G. Farbenindustrie are identified: Lumogen yellow, dianilinoanthracene; Lumogen sea-blue, dixanthylene; Lumogen blue, diethyl ester of dihydroxyterephthalic acid; Lumogen yellow-orange, salicylaldazine; Lumogen bright yellow, 2-hydroxynaphthaldazine; Lumogen bright green, terephthalaldehyde and 2-cyanoacetic ester; Lumogen reddish orange, 2-anilino-4-(2',5'-dichlorobenzoylamino)-1, 9-anthrapyrimidine. Data for their ultraviolet absorption and (visible) emission spectra are given. Their uses range from marking paints for streets, walks, buildings, etc., to ultraviolet-absorbing agents in paper and Cellophane for protecting food products. The various luminescent materials are characterized by (a) a continuous system of conjugated double bonds, (b) a mesomeric or tautomeric structure, as the o- or p-quinoid ring system, (c) chelation, (d) or a syn. structure.--From Chemical Abstracts.

616-641 PB L 52016 HARTMAN, J. H. Newer developments in luminous X-ray screens. In German. 2.00

A systematic study is made of the variation of fluorescence with the

thickness or no. of layers of fluorescent material ($CaWO_4$), and 22 diagrams show these data for various X-ray voltages. The sharpness of the image is related to the no. of layers, the size of the particles, and the extent of reflection within the film. The effect of using double-emulsion photographic film is shown.--From Chemical Abstracts.

642-658 PB L 52016 SCHRÖTER, FRITZ. Problems with luminous materials in television. In German. 2.00

Prepns. of ZnS and ZnS-CdS have displaced Zn silicate or Zn Be silicates. Improvements have been made in tube design to permit higher voltages, as 8-12 kv. Efficiencies of 3-6 Hefner candles/watt are reached in practice. For good quality white, several phosphors are mixed to obtain the various components of light. For color television, an additive method is described: phosphors emitting the complementary colors red, yellow, and blue are mounted on a rotating disk, whereon the composite picture is viewed through a window. A phosphor having high ultraviolet emission (45% at 350-400 mμ) is CaO activated with Pb; for infrared emission, Cd selenide is mentioned. The irradiation-decay time consts. of the phosphors are considered for the various applications, with curves shown for ZnS, ZnO, and Zn silicate. The relation between anode voltages and efficiency is shown, the latter falling off with increasing voltage.--From Chemical Abstracts.

659-670 PB L 52016 Discussion. In German. 1.0

The various problems arising during the discussion of the above lectures and the critical remarks and the supplementary suggestions made are summarized.

671-688 PB L 52016 STRECK, ERNST and GOOS, FRITZ. The conditions for preparing copper-activated zinc sulfide and cadmium sulfide phosphors. In German. 2.00

The effects of variations in Cu content, calcining temp. and duration, and pressure, on the dielec. const. and the photovoltage are shown graphically. The DK-effect (elevation of the dielec. const. with irradiation) is somewhat related to the luminescence of the phosphor. For ZnS the max. DK-effect is reached with 5×10^{-5} g. Cu/g. ZnS; for CdS, 3×10^{-4} g. Cu/g. CdS. The temp. at which the DK-effect is max. for ZnS is 1000-1050°; for CdS, 675°. For ZnS no further effect is observed after 10 min. at 950°, the active centers having been established; for CdS the relation is different, a sharp max. occurring in 0.5-1.0 min. at 700° followed by a slow rise to a satn. value. This is explained on the basis of two reactions: the one being the normal addn. of the Cu atoms during the calcining process; the other, a slow penetration of Cu atoms into the crystal. Pressures of 100-200 atm. decrease the DK-effect for ZnS and CdS, although the luminescence is not changed. The photovoltage is little changed by variation in amt. of activator. The photovoltage appears in samples prepd. at 200°, with a max. for red and infrared at 800°; a max. is reached at 40 atm., falling off at higher pressures.--From Chemical Abstracts.

PB L 30020-T. JOINT INTELLIGENCE OBJECTIVES AGENCY. Reports from individual I.G. Farbenindustrie plants to the Intermediate Products Commission, (Zetko). Index, 1927-1933. (Index to PIAT Microfilm Reel C 26, PB 12272, abstracted in vol. 4, p. 659, this Bibliography). Nov 1945. 21 p. Price: Microfilm-$1.00 - Photostat-$2.00

* PB L 81645. SEEL, FRITZ. Quantum theoretical observations to the problem of hydrocarbon biradicals and biradicaloids. (PIAT Final Rept 1173). Aug 1947. 19 p. Price: Mimeo-$0.50

Of the compounds discussed only the o-substituted derivatives of Tschitschibabin's, Schlenk's, and Theilacker's hydrocarbon are true biradicals (configurations with uneven number electron systems). Compounds which possess only a part of the properties of free biradicals are designated as biradicaloids. The substances described in this class are traced back or related to quinone types. For various electron systems the π-electron coupling energy is calculated. In German.

* PB L 80388. SCHULTZE, GEORGE H. and MELKOLIAN, G. ARTHUR. Kinetics of the formation of dicyclopentadiene in pure liquid phase. (PIAT Rept 1138). Jul 1947. 19 p. Price: Mimeo-$0.50

The kinetics of the formation of α-dicyclopentadiene from pure liquid cyclopentadiene was investigated in the temperature range of 25-90° C. The considerable increase of the velocity coefficient for the second order reaction, which was observed in each experiment, could be reduced to constancy by taking into account the auto-catalytic effect of the dicyclopentadiene produced. If it is assumed that the auto-catalytic acceleration takes place by means of a triple-collision mechanism, which seems possible in the liquid phase, then the reaction scheme leads to the differential equation used as basis for the calculations. In German.

ELECTRICAL MACHINERY, EQUIPMENT, AND SUPPLIES

Communication Equipment

PB L 80783. CARDINELL, RICHMOND L. and HENRY, GLENN C. Guide to industrial sound. Jun 1944. 70 p. Price: Microfilm-$2.00 - Photostat-$5.00

"Industrial sound" is the electronic transmission of speech, music, or both in industrial plants. The term embraces intercommunication and plant broadcasting. This report contains the basic principles of an adequate system. Photographs, diagrams, and a bibliography are included. The publication was prepared by the Office of Production Research and Development of the War Production Board.

PB L 82196. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. Radiotelephone communication between mobile units. Final report. (Rept 1618). Jun 1943. 242p. Price: Microfilm-$7.00 - Enlargement Print-$26.00

Radiotelephone communication between mobile units over short distances utilizes the ground wave as a transmission medium. This report describes equipment and methods for measuring independently the more important factors affecting such communication and gives examples of measurements made by these methods. A powerful method for measuring the unattenuated field intensity at unit distance produced by a transmitting installation is described and examples of its application are given at frequencies of 4, 28, and 116 megacycles. Propagation tests are reported at 4 and 28 megacycles over level, rolling, and mountainous terrain; and the results have been correlated with theoretical curves insofar as possible. Transmission on 28 megacycles is shown to be more affected by countour of the terrain that is 4 megacycle transmission. A seasonal variation in earth constants was studied and was found to affect 4 megacycle signals to a greater extent than 28 megacycle signals. Results of propagation tests at 116 mega-

cycles over rolling terrain are also reported, and the results show that the average field intensities encountered are six to ten db below theoretical values. Simplified graphs to assist in calculating theoretical ground-wave field intensity values are included, together with a complete description of their use and examples. Antenna characteristics and noise levels of representative vehicles were measured and interpreted in terms of field intensities necessary for reliable communication. Communication in the 4 megacycle band was found to be limited by atmospheric noise and would, therefore, be extremely variable; whereas frequency modulated signals in the 28 megacycle band would be largely independent of atmospheric noise and consequently more consistent. It is concluded that, except in mountainous regions, the most consistent and reliable communication over short distances (3 to 12 miles) with limited power and mobile units may be obtained using frequency modulated signals in the 20-40 megacycle band. A lower frequency is indicated for use in mountains. This document is a final report on all of the work done on National Defense Research Committe Project C-30, Contract No. OEMsr-174. The document is signed by Stuart L. Bailey of Jansky and Bailey, Washington, D. C., firm who performed the work. Schematics and photographs are included.

PB L 60515. U. S. WAR DEPARTMENT. Electrical communication systems engineering. (Tech Manual 11-486). Apr 1945. (Available from the Supt of Docs., Washington 25, D. C., $1.50).
This manual deals with electrical communications from the systems engineering standpoint. It is a general reference manual primarily intended for use by staff signal officers engaged in planning the electrical communication systems - telephone, manual telegraph, teletypewriter, and facsimile; wire and radio, - required for theater of operations. Tables, diagrams, and photographs are included.

Electronics

* PB L 78273. ADAMS, J. FRED JR. The Krawinkel image-storing cathode ray tube. (FIAT Final Rept 1027). Apr 1947. 21 p. Price: Mimeo-$0.75
This report covers a new type of cathode ray tube which is capable of storing images over long periods of time. The tube was developed by Dr. Krawinkel with the idea of eliminating flicker in television pictures. This tube may also be used for recording and storing impulses of short duration for comparison purposes. The writing time is about 1 mm. in 5 x 10^{-8} seconds, and it is believed that this can be increased to 1 mm. in 5 x 10^{-10} seconds. The first laboratory samples of this new type of cathode ray tube were completed in 1944. Sketches, photographs and figures are included.

PB L 77292. DORSEY, J. R. (ed). Handbook for model CXEH radar beacon and associated test equipment; revised edition. (Mass Institute of Technology. Radiation Lab Rept L-129B). Feb 1944. 288 p. Price: Microfilm-$6.00 - Photostat-$20.00
CXEH is a radar ground beacon which gives azimuth and range information to interrogating X-band airborne radars. This handbook briefly describes its tactical use and theory of operation. It makes suggestions for the use of interrogating radar. It gives detailed instructions for installation, operation, and maintenance of CXEH and its test equipment. 68 illustrations, 14 circuit diagrams, and 8 photographs are included.

PB L 15290. HARRISON, R. J. Design considerations for directional couplers. (MIT Radiation Lab Rept 724) Dec 1945. 103 p. Price: Microfilm-$1.50 - Photostat-$7.00

PB L 15247. U. S. DETROIT SIGNAL LABORATORY. Radio-interference suppression as applied to Experimental Pilot-Model Engines, Models ZZ, ZZP, and ZZR-6, manufactured by Briggs and Stratton Corporation, Milwaukee, Wisconsin. (Engineering Memo D-292-M-P-45) Mar 1945. 11 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 4684. WEISE, ERWIN. Report on semi-conductor resistors. (FIAT Microfilm Reel SF 41) Dec 1945. 194 f. Price: Microfilm-$2.75 - Enlargement print-$19.50
This FIAT microfilm reel contains a report of interviews of Erwin Weise by Capt. Anthony Hamilton on the former's research in the behavior of electrons in semi-conductors, their paths, numbers of free electrons, changes in conductivity due to electron concentration and allied topics, and their application in practice. Photographs, graphs, tables, and charts. Some frames of this reel may not reproduce well.

FUELS AND LUBRICANTS

PB L 7751-S. GESELLSCHAFT FÜR TEERVERWERTUNG M.B.H. The evaluation of coal tars by the Gesellschaft für Teerverwertung m.b.H. at Meiderich, Rauxel, and Alsdorf. (Supplement to PB 7751) (FIAT Final Rept 478, Supp.) Sep 1934. 9 p. Price: Microfilm-$1.00 - Photostat-$1.00
PB L 7751-S-2. GESELLSCHAFT FÜR TEERVERWERTUNG M.B.H. Products manufactured by the Meiderich plant. (Supplement to PB 7751) (FIAT Final Rept 478, Supp.) Jun 1945. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
PB L 7751-S-3. GESELLSCHAFT FÜR TEERVERWERTUNG M.B.H. Deliveries of impregnating oil to America. (Supplement to PB 7751) (FIAT Final Rept 478, Supp.) Jun 1945. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00
PB L 7751-S-4. GESELLSCHAFT FÜR TEERVERWERTUNG M.B.H. Report on German coal-tar distillation for 1938-1943. (Supplement to PB 7751) (FIAT Final Rept 478, Supp.) Jun 1945. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00
PB L 7751-S-5. GESELLSCHAFT FÜR TEERVERWERTUNG M.B.H. Specifications for impregnating oils. (Supplement to PB 7751) (FIAT Final Rept 478, Supp.) Jun 1945. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
PB L 7751-S-6. FISCHER, W. The continuous process of refining the various components of crude coal tar. (Supplement to PB 7751) (FIAT Final Rept 478, Supp.) 1944. 27 p. Price: Microfilm-$1.00 - Photostat-$2.00
PB L 7751-S-7. GESELLSCHAFT FÜR TEERVERWERTUNG M.B.H. Plan of site of the Meiderich plant. (Supplement to PB 7751) (FIAT Final Rept 478, Supp.) Apr 1938. 18 p. Price: Microfilm-$1.00 - Photostat-$2.00
PB L 7751-S-8. GESELLSCHAFT FÜR TEERVERWERTUNG M.B.H. Flow sheet of the operation. (Supplement to PB 7751) (FIAT Final Rept 478, Supp.) Jun 1940. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
The eight individual documents listed above are supplements to PB 7751: GOTTSCHALK, F. W. Coal-tar creosote for wood preservation in Germany during the war period (FIAT Final Report 478), abstracted on p. 851 of vol. 2 of this Bibliography. In German only, except PB L 7751-S-6.

PB L 7751-S — This is an illustrated pamphlet which describes the history, installations, and processes of the company.

PB L 7751-S-2 — This is a detailed list in which the products of the individual installations at Meiderich are enumerated.

PB L 7751-S-3 — Shipments of impregnating oil to America made during 1924-1939 are listed.

PB L 7751-S-4 — Statistical data on coal-tar distillation for seven German firms are given.

PB L 7751-S-5 — Specifications for impregnating oils used by the German railroads and various foreign countries are listed.

PB L 7751-S-6 — This is a reprint from Z. VDI--Beiheft "Verfahrenstechnik", No. 1, 1944. A complete English translation is attached.

PB L 7751-S-7 — Plan of site of the Meiderich plant.

PB L 7751-S-8 — Flow sheet of the operation.

PB L 79561. SUPREME COMMANDER FOR THE ALLIED POWERS. NATURAL RESOURCES SECTION. Petroleum resources and production in Japan. (Rept 80). Jun 1947. 55 p. Price: Microfilm-$2.00 - Photostat-$4.00
This report covers the following subjects: History of the petroleum producing industry; geology and oil occurrence; development; production; oil fields of special interest; proved oil reserves; potential oil reserves; status of geological exploration and exploitation of oil; and, the economic position of the crude oil industry. Six appendices, tables and illustrations are included.

PB L 21182-A2. U. S. AERONAUTICAL BOARD. Alcohol; specially denatured ethyl, (with amendment no. 2, May 1947). (Army-Navy Aeronautical Specification AN-A-18). Sep 1943. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00
PB 21182 is listed in v. 1, p. 1260.

PB L 21406-A2. U. S. AERONAUTICAL BOARD. Grease; high temperature lubricating (with amendment No. 2, May 1947). (Army-Navy Aeronautical Specification AN-G-5a) Oct 1944. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
PB 21406 is listed in v. 1, p. 1262.

INSTRUMENTS (PROFESSIONAL, SCIENTIFIC AND CONTROLLING)

PB L 82199. ARONS, A. B. and TAIT, C. W. Design and use of tourmaline gauges for piezoelectric measurement of air blast. (OSRD Rept 6250). Mar 1946. 87 f. Price: Microfilm-$3.00 - Enlargement Print-$10.00
The work described in this reel is pertinent to the project designated by the War Department as OD-03, "Study of Shock Waves", and to the project designated by the Navy Department as NO-283, "Air-Blast Measurements." The report constitutes a progress report under Contract OEMsr-569 with the Woods Hole Oceanographic Institution, and is one of the final reports by that contractor. It was prepared as a part of Task A under Contract NOrd-9500 with the Bureau of Ordnance, under which that laboratory has continued its work. The report describes the evolution of the design of tourmaline air-blast gauges used by the Underwater Explosives Research Laboratory and discusses calibration techniques including static and shock-tube methods. Transient-response characteristic of gauges are analyzed theoretically from the points of view of gauge performance and of amplifier design. The existence of distortion caused by effects of mass flow around gauges is shown experimentally and methods of minimizing the distortion by means of baffles are indicated. A discussion of pyroelectric signal and of methods of applying thermal insulation to minimize this signal is also given. The piezoelectric constant of tourmaline as measured by this laboratory was found to be 11.1 $\mu\mu$ coulomb/lb. Photographs, graphs and bibliographic references are included.

PB L 82197. BARBER, W. H. and ALEXANDER, N. E. Miscellaneous experimental electronic pressure recorders for rocket research. Final report. (OSRD Rept 5865). Dec 1945. 13 f. Price: Microfilm-$1.25 - Enlargement Print-$3.00
The intent of this final report is to describe several experimental electronic instruments for recording the pressure in a rocket motor. Three instruments are described; namely, an electronic-sweep recorder, a maximum-pressure indicator and a long-action-time pressure versus integral-of-pressure recorder constructed by the Bell Telephone Laboratories. The electronic-sweep pressure-time recorder employs a wire-strain gage and regulated power supply, in a suitable network, to provide a transient-voltage output suitable as an input to the vertical amplifier of a commercial cathode-ray oscilloscope, thereby providing vertical deflection of the electron beam proportional to the pressure. Horizontal deflection of the beam is provided by the standard sweep oscillator that is part of the commercial instrument. The path traced with the electron beam on the screen of the cathode-ray tube is photographed using a plate camera. The maximum-pressure indicator employs a wire-strain gage and regulated power supply connected in a similar manner to that used with the electronic-sweep recorder to provide the transient-voltage pulse which is used to supply an input to a transient-peak vacuum-tube voltmeter. The experimental use of this equipment and the results obtained are described. The experimental progress in the development of the long-action-time pressure versus integrated-pressure instrument is covered. In each case the termination of National Defense Research Committee activities at Allegany Ballistics Laboratory prevented completion of improvements needed to make full use of these instruments in ballistic testing. The work of developing and testing these instruments was done at the Allegany Ballistics Laboratory, Pinto, West Virginia. Funds for these developments were provided under contract OEMsr-273 with the George Washington University. Photographs and bibliography included.

PB L 80724. MINTZ, F. A summary of static deflection data on three series of plastic diaphragms. (David W. Taylor Model Basin Rept 506). Oct 1943. 24 p. Price: Microfilm-$1.00 - Photostat-$2.00
Curves of deflection plotted against pressure are presented for three series of diaphragms classified by diameter; the nominal diameters are 1 3/16 inch, 5 inches, and 20 inches. Stress values based on the simple theory of TMB Report 490 are plotted. According to this theory,

$$\sigma = \frac{p(a^2 + z^2)}{4hz}$$

where, in a diaphragm of radius a and initial thickness h, σ is the stress, assumed uniform throughout the diaphragm, and z is the deflection caused by a normal applied pressure p. Generalized curves of nominal plastic deflection are derived from the deflection-pressure data. It is concluded that the simple theory of TMB Report 490 is verified, approximately, within certain limits. Sketches, tables and deflection curves are included. The diaphragms tested were Modugno gage discs.

PB L 69950. ROTH, G. E. Radon micro determination by the Curtiss-Davis α-particle counting method. (Extracted from the New Zealand Journal of Science and Technology, Vol. 27, no. 2). 1946. 7 p. Price: Microfilm-$1.00 - Photostat-$1.00
Modification of the design and of the routine operation of a radon micro determination equipment, based on the Curtiss-Davis α-particle counting method, are described and illustrated.

PB L 80729. SMITH, D. M. Experimental and theoretical investigations of the mass-plug accelerometer. (David W. Taylor Model Basin Rept R-267) Mar 1946. 20 p. Price: Microfilm-$1.00 - Photostat-$2.00
The mass-plug accelerometer is an instrument which was designed to measure peak amplitudes of acceleration. The experimental work described in this report was undertaken primarily to determine the consistency of results under duplicable test conditions, but development of a new experimental technique permitted broadening of the scope of the work and made it possible to study the cause of breakage more thoroughly. The tests are divided chronologically into two groups which are described separately. Tables, sketches, charts, graphs, and illustrations are included.

PB L 52893-R. U. S. BUREAU OF AERONAUTICS. Testers, engine-cylinder, thermometer. (Revision of PB 52893, vol. 4, p. 806). (NAVAER Specification SQ-85-A, rev.; 88T2). Feb 1947. 15 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 78619. U. S. WAR DEPARTMENT. Wavemeter; Lavoie model 105-SM, frequency meter TS-127-U. (Tech Manual 11-

Instruments (contd)

2558). Nov 1944. 22 p. Price: Microfilm-$1.00 - Photostat-$2.00.

PB L 69947. WHITTLESTON, W. G. and ZILAN, J. M. A useful laboratory vacuum-tube volt-meter. (Extracted from the New Zealand Journal of Science and Technology, Vol. 27, no. 2). 1946. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00

Description is given for construction of a vacuum-tube voltmeter by using the divider circuit described by Thurston in Electronics, Oct. 16, 1943. The circuit is shown in figure 1 with list of components.

LEATHER AND LEATHER PRODUCTS

PB L 79423. GREAT BRITAIN. WAR OFFICE. Shoes, black, leather. A.W. pattern no. T. 430. Ei revised edition. (Specification T.C. 177/E/1-1947 (Provisional); British Commonwealth Scientific Office Rept 160-B1-125). Jan 1947. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00

* PB L 80405. LAWSON, NEIL and others. Leather belting manufacture in Germany. (BIOS Final Rept 1162, Item 22). Apr-May 1946. 58 p. Price: Microfilm-$2.00 - Photostat-$4.00

This report is divided into three sections. Section I gives the name and address of factories visited. Section II is a general review of the industry. Section III gives a more detailed report on each of the fifteen factories investigated. Appendix gives compositions of waterproof cements made by I. G. Farben in Urdingen. Sketches are included.

PB L 80616. U. S. WAR DEPARTMENT. Classification, processing, and inspection of leather and leather equipment. (Tech Manual 10-226). Jan 1941. 41 p. Price: Microfilm-$1.00 - Photostat-$3.00 (Available from the Supt of Docs. Washington 25, D. C., 10¢).

MACHINERY (EXCEPT ELECTRICAL)

* PB L 61577. BREUER, JOHN P. Mechanical report on precision cutting tool and gage plants in Germany. (FIAT Final Rept 121). Oct 1945. 14 p. Price: Mimeo-$0.50

Thirteen plants including 3 of the largest in Germany were visited and an overall picture was obtained of their methods. Although in several plants some operations were entirely different and somewhat faster, it was concluded that the accuracy and finish of the products examined do not come up to U. S. A. standards.

PB L 80797. ENGLER, KYLE. Report on the mechanical phases of the Earle rice peeler. Aug 1944. 32 p. Price: Microfilm-$1.00 - Photostat-$3.00

The rice peeler, a tubular mill about 2 feet in diameter by 10 feet long, is mechanically simple and practical. The power consumption for normal capacity is very close to 2 horse power. Under conditions encountered, the experimental machine has a maximum capacity of about 30 pounds of brown rice per minute. Certain correctable defects were noted. Tables, photographs, and diagrams are included. This study was conducted by the University of Arkansas for the Office of Production Research and Development of the War Production Board.

* PB L 80358. GOLDMANN, PHILIPP. Design practices and construction of centrifugal compressors by leading German manufacturers. (FIAT Final Rept 1152). May 1947. 45 p. Price: Mimeo-$1.25

This report reviews German design practices and construction methods in the field of centrifugal gas compressors. Detailed construction drawings of impellers and hydraulic channels are included. The design constants used by the German engineers for the layout of impellers are listed. Characteristic performance curves for the compressors described are presented. Photographs and drawings are included.

* PB L 79586. HAMM, H. W. German wind turbine projects planned during the Hitler era. (FIAT Final Rept 1111). May 1947. 23 p. Price: Mimeo-$0.75

A large number of engineers in Germany occupy themselves with the problems of wind power. Their object is to solve the acute power shortage without exhausting natural resources. They also feel that increased coal production would not be of real benefit to the German economy, but would be drained away in the form of reparations. They feel fairly certain that the same would not be true of wind power installations. Another reason for the activity in the wind power field, which is taking place with the revival of the "Arbeitsgemeinschaft fur Windkraft", is the fact that this is the only way in which aeronautics is so closely connected with the war potential that it has been prohibited by the allied occupation forces. This new activity is of very recent origin and consists mainly in the revival of old projects, some of which are mentioned in this report. It must be pointed out that the very extensive work previously accomplished in the wind power field consists of plans, projects and propaganda only. One turbine of twenty kilowatt capacity had been erected at one time for test purposes, and it was destroyed by war action. Appendix I gives a list of German personnel interviewed, Appendix II a bibliography, and Appendix III contains illustrations of various wind turbines.

PB L 74166. INDUSTRIEWERKE KARLSHUHE. Continuous packing machine. (FIAT Microfilm Reel CC 266, Frames 1-430A) 1939-1942. 431 f. Price: Microfilm-$5.25 - Enlargement print-$43.50

This reel, prepared by FIAT personnel in Germany, contains parts drawings arranged according to groups and pertaining to the continuous packing machine (type MP). Packages can be either wrapped or paper lined on the inside, according to choice. No assembly drawings are attached nor explanations given. In German.

PB L 73994. MINISTERIAL DOCUMENTS BRANCH, BERLIN, GERMANY. Wind power plants. (FIAT Microfilm Reel B-218, Frames 3585-4576.) 1931-1940. 992 f. Price: Microfilm - $6.00 - Enlargement prints - $99.50

This reel, prepared by FIAT investigators in Germany contains protocols, pamphlets, and inventors' proposals concerning the planning and construction of wind power plants. Individual items as listed below will be available as enlargement prints. Please include PB and frame numbers when ordering individual items. In German.

Frames	Title	Price
3585-3617 PB L 73994	Directions and a protocol on discussions at the meeting of the "Reichsarbeitsgemeinschaft Windkraft" dated Jan 18, 1940. In German.	$3.50
3618-3651 PB L 73994	Static calculation of the proposed wind power plant "Kleinhenz". In German.	3.50
3652-3688 PB L 73994	First report of the "Reichsarbeitsgemeinschaft" on wind power and its use for electric current generation. In German.	4.00
3689-3697 PB L 73994	Report on aerological phenomena. In German.	1.50

3698-3701 PB L 73994 — Report on solid towers of large wind power plants. In German. 1.50

3702-3713 PB L 73994 — Aerodynamic and mechanical-technical test report on wind power plants. In German. 1.50

3714-3731 PB L 73994 — Report on electric generators operated by wind power plants. In German. 2.00

3732-3745 PB L 73994 — Pamphlet on wind power plants by Hermann Honnef, Berlin, March 1932. In German. 1.50

3746-3758 PB L 73994 — Pamphlet on conversion of economy due to technical progress by Hermann Honnef, Berlin, Feb. 1934. In German. 1.50

3759-3824 PB L 73994 — Newspaper articles, scientific comments and photographs of the wind power plant at Hannef, 1931-1934. In German. 7.00

3825-3837 PB L 73994 — Pamphlet of the "Wirtschaftsgruppe Elektrizitätsversorgung" on the use of wind power for electric current generation, Berlin, Sep 1940. In German. 1.50

3838-3852 PB L 73994 — Memorandum of the "Reichsarbeitsgemeinschaft Windkraft, Berlin," on its work during the fiscal year 1939-1940. In German. 1.50

3853-3895 PB L 73994 — An article on the economy and operation of large wind power plants by Dr. H. Witte, dated 1938. In German. 4.50

3896-3912 PB L 73994 — A critique of the large wind power plant of Wensierski. In German. 2.00

3913-4053 PB L 73994 — Pamphlets of the "Wirtschaftsgruppe Elektrizitätsversorgung" on wind power plants in USSR and in Denmark, dated Aug 1941 and Apr 1942 as well as various advertisements and articles from periodicals. In German. 14.50

4054-4259 PB L 73994 — Protocols on meetings of the "Reichsarbeitsgemeinschaft Windkraft", 1939-1944. In German. 21.00

4260-4282 PB L 73994 — A technical report of the "Reichsarbeitsgemeinschaft Windkraft" on the utilization of wind power for current generation and comments on previous designs, Berlin Steglitz, Mar 1940. In German. 2.50

4283-4352 PB L 73994 — More protocols of the above mentioned meetings. In German. 7.00

4353-4355 PB L 73994 — A booklet reprinted from the periodical "Der Frontarbeiter" on instructions for the erection of a provisional wind power plant. In German. 1.50

4356-4567 PB L 73994 — Offers of inventors such as the wind power machine with foresails by Bilgert, the wind power machine by Siegel and Co. In German. 21.50

4474-4479 PB L 73994 — Addition to a patent application 76452g 1a/88a, not dated, by Förster, Gustav, in Gablonz/Neisse on a "Wind power machine" (Drawings included) In German. 1.50

4568-4576 PB L 73994 — Large sectional drawings. In German. 1.50

PB L 80801. NICHOLSON, MICHAEL B. Machinery distribution in the Japanese mineral industry. (Supreme Commander for the Allied Powers Natural Resources Sect Preliminary Study 14). Jul 1947. 26 p. Price: Microfilm-$1.00 - Photostat-$2.00
This study presents with fair accuracy information on the disposition and source of about 98 percent of the machinery owned by the Japanese mineral industry. Statistics are based on answers to a questionnaire prepared by Natural Resources Section in the course of research on technical problems involved in mineral mining.

* PB L 81642. ROBINSON, JOSEPH. German practice in fabrication of gas turbine blades. (FIAT Final Rept 1129). Jun 1947. 16 p. Price: Mimeo-$0.50
This report describes briefly three methods used at Bayrische Motoren Werke for fabricating turbine blades for gas turbines. Details of forming, drawing, machining, and mounting are given. Drawings and pictures give pertinent dimensions and illustrate various steps in the processes.

* PB L 79632. ROSS, A. DENISON and BELCH. Interrogation of Dr. Adam Heinrick Bohn, June 20, 1945. (Marine and aero turbines, Admiralty M.O.S.). (BIOS Interrogation Rept 328). Mar 1947. 10 p. Price: Microfilm-$1.00 - Photostat-$1.00
This report covers interrogation of Dr. Adam Heinrick Bohn, Director of Deschimag, Bremen, and others. The interrogation was in connection with high-pressure turbine machinery. Diagrams and sketches are included.

* PB L 78272. STROEHLEN, RICH. English translation of the future of gas turbine installations. (FIAT Final Rept 1034). Apr 1947. 91 p. Price: Mimeo-$2.50
The papers included in this report make comparisons between gas turbines with and without heat exchangers regarding their efficiency and costs of installation and operation. A further comparison is made between the gas turbine and similar steam installations considering all factors. Suitable graphs, tables, drawings and the original German text are included. These papers are included in an A.E.C. pamphlet entitled "The High Pressure Gas Installations, A New Gas Turbine System Without the Use of Heat Exchanger", and is a reprint from Elektrotechnische Zeitschrift (1941), issue 7, page 150. In German and English.

MEDICAL RESEARCH AND PRACTICE, INCLUDING CLINICAL APPLICATION OF DRUGS AND PHARMACEUTICALS

PB M 73373. ERLANGEN, GERMANY. UNIVERSITY. Doctors' theses on various medical subjects. (FIAT Microfilm Reel G 241, Frames 2285-3321). 1938-1940. 1036 f. Price: Microfilm-$8.00 - enlargement print-$104.00
This FIAT microfilm reel consists of items in the field of medicine. The material was obviously seized in the library of the above university. Individual items are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $8.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
2285-2296 PB M 73373	The isolated dislocation of the talo-navicular joint. By K. Weh, 1939. In German.	$1.50
2297-2313 PB M 73373	Comparative visual tests with constant and intermittent light, hereby imitating the conditions which exist during x-ray examinations. By W. Weidmann, 1940. In German.	2.00
2314-2322 PB M 73373	Spinal fluid findings and differential diagnosis of	

cerebral arteriosclerosis. By H. Weigel, 1940. In German. 1.50

2323 PB M 73373 — This frame is missing.

2324-2334 PB M 73373 — Metastatic suppuration of the spinal cord after a felon of non-traumatic origin. By M. Weinfurter, 1940. In German. 1.50

2335 PB M 73373 — This frame is missing.

2336-2347 PB M 73373 — Translations and explanations of "Essay d'Odontoteshnic ou Disseratation sur les Dents Artificielles" by Claude Mouton, Paris 1746 / chapter IV as far as page 123/. By W. Wolter, 1940. In German. 1.50

2348-2362 PB M 73373 — The importance of pseudarthroses of the carpal bones in insurance medicine. By P. Werner, 1939. In German. 1.50

2363-2383 PB M 73373 — Possibilities of individual designing of the denture by selection of color and shape of the artificial teeth. By H. Westphal, 1940. In German. 2.50

2384 PB M 73373 — This frame is missing.

2385-2400 PB M 73373 — "Carmen de pulsibus" by Gilles de Corbeil /Aegidius Corboliensis/ /parts II and III/. By M. Wichmann, 1939. In German. 2.00

2401 PB M 73373 — This frame is missing.

2402-2411 PB M 73373 — Occurrence of the os tibiale externum and its clinical significance. By H. Wieder, 1940. In German. 1.50

2412-2425 PB M 73373 — Episiotomy as reflected in modern medical literature. By W. Wiemer, 1938. In German. 1.50

2426 PB M 73373 — This frame is missing.

2427-2442 PB M 73373 — Actinomycosis and its treatment with iodoiontophoresis and x-ray irradiation. By H. Wild, 1940. In German. 2.00

2443 PB M 73373 — This frame is missing.

2444-2474 PB M 73373 — Biologically important polysaccharides and a new method of defining them. By G. Wielke, 1939. In German. 3.00

2475-2488 PB M 73373 — Critical review of the results of the treatment of paradentosis. By E. Wimmer, 1940. In German. 1.50

2489 PB M 73373 — This frame is missing.

2490-2504 PB M 73373 — Contribution to the knowledge of esthiomene of the vulva. By A. Winkler, 1940. In German. 1.50

2505-2521 PB M 73373 — Attempt at murder by means of low voltage current with subsequent strangling of the victim. By H. Winter, 1940. In German. 2.00

2522 PB M 73373 — This frame is missing.

2523-2542 PB M 73373 — Forms of the course of thyrotoxicosis after conservative and surgical treatment. By H. Witter, 1940. In German. 2.00

2543 PB M 73373 — This frame is missing.

2544-2563 PB M 73373 — Identical with frames 2523-2542.

2564 PB M 73373 — This frame is missing.

2565-2577 PB M 73373 — Treatment for pituitary tumors. By R. Wohllaib, 1940. In German. 1.50

2578-2593 PB M 73373 — Purulent osteomyelitis of the jaw after extraction of a tooth. By J. Wolf, 1939. In German. 1.50

2594-2610 PB M 73373 — Origin of free bodies inside the hip-joint and their treatment. By K. Wolf, 1939. In German. 2.00

2611-2625 PB M 73373 — Ectopia lentis. By G. Zengen, 1940. In German. 1.50

2626-2636 PB M 73373 — Contributions to the knowledge of branchiogenic cancers. By H. H. Zerres, 1940. In German. 1.50

2637-2651 PB M 73373 — Spontaneous fatal hemorrhages of the cerebellum in juveniles: observation of a pertinent case in a girl aged 16. By H. Zimmerer, 1939. In German. 1.50

2652-2661 PB M 73373 — Does the weather influence the skin temperature? By H. Zimmermann, 1940. In German. 1.50

2662-2673 PB M 73373 — Investigations concerning the application of Schellong's regulation test of the circulation. By H. Zimmermann, 1940. In German. 1.50

2674 PB M 73373 — This frame is missing.

2675-2696 PB M 73373 — Modern methods for the bloodless determination of the stroke volume and minute volume of the heart. By W. F. Zimmermann, 1940. In German. 2.50

2697 PB M 73373 — This frame is missing.

2698-2708 PB M 73373 — Supracondylar fractures of the humerus in children. By E. Zoll, 1940. In German. 1.50

2709 PB M 73373 — This frame is missing.

2710-2721 PB M 73373 — Cancer based on lupus erythematosus. By O. Zuber, 1940. In German. 1.50

2722 PB M 73373 — This frame is missing.

2723-2734 PB M 73373 — Seminomata of the testicle and their relations to cryptorchism. By B. Zwaok, 1940. In German. 1.50

2735-2749 PB M 73373 — Testing of "stimulants" by animal experiments. By K. Pfund, 1939. In German. 1.50

2750-2791 PB M 73373 — The state of health of white women returning from tropical countries: cases observed in the Tübingen tropical sanatorium. By H. Pohlmann, 1940. In German. 4.50

2792-2804 PB M 73373 — Contribution to the morbid picture of Breslau bacillus enteritis: epidemiologic and clinical observations and examinations of cases of enteritis caused by bacillus Breslau, following the ingestion of duck eggs / epidemic of June 1939 at Esslingen a. N./. By J. Rauscher, 1940. In German. 1.50

2805-2817 PB M 73373 — Prognosis in cases of injuries of the eyes caused by perforating foreign bodies: compilation of the cases of the Tübingen ophthalmologic hospital for the period 1929-1938. By L. Ronnecke, 1940. In German. 1.50

2818-2833 PB M 73373 — A case of congenital stenosis of the duodenum. By L. Rupp, 1940. In German. 2.00

2834-2846 PB M 73373 — Diffuse carcinosis of the kidneys. By W. Schäfer, 1939. In German. 1.50

2847-2865 PB M 73373 — Residues after treatment of fractures of the cranial roof, occurring in adults, and their relation to complaints of the patient. By A. Schairer, 1939. In German. 2.00

2866-2881 PB M 73373 — Effect of antipyretic and pyrogenic agents. By H. Schmidt, 1939. In German. 2.00

2882-2893 PB M 73373 — Behavior of the regional lymph nodes in cancer. By K. Schmoll, 1939. In German. 1.50

2894-2903 PB M 73373 — Carcinosis of the pulmonary lymphatics in multiple cancerous embolism into the small branches of the pulmonary arteries. By M. Schmögle, 1939. In German. 1.50

2904-2913 PB M 73373 — Prostatic hypertrophy and prostatic cancer. By K. Schurer, 1940. In German. 1.50

2914-2920 PB M 73373 — Investigations on the leucocytic reaction of white mice after injection of volatile oils. By A. Schwanck, 1940. In German. 1.50

2921-2933 PB M 73373 — Atresia of the left conus arteriosus and stenosis of the ascending aorta in the newborn. By C. Seyler, 1939. In German. 1.50

2934-2948 PB M 73373 — Influence of physical and chemical actions on the capability of cells to be stained. By K. Spring, 1940. In German. 1.50

2949-2967 PB M 73373 — Clinical by-effects of plasmochin and atabrine. By H. Strauss, 1939. In German. 2.00

2968-2978 PB M 73373 — Attempt at influencing hemolytic jaundice by liver therapy. By O. Stoferle, 1939. In German. 1.50

2979-2990 PB M 73373 — Effect of adrenalin on the calcium level in plasma and erythrocytes, apart from its action on pulse and blood pressure. By R. Stolze, 1940. In German. 1.50

2991-3004 PB M 73373 — Contribution to the myeloid leukemia of early childhood. By H. Straube, 1939. In German. 1.50

3006-3017 PB M 73373 — Clinical significance of vasa praevia velamentosa. By M. Strobel, 1939. In German. 1.50

3018-3028 PB M 73373 — A case of carcinosarcoma of the uterus. By K. Stroh, 1939. In German. 1.50

3029-3044 PB M 73373 — Frequency of pulmonary cancer according to the post mortem material of the Tübingen pathologic institute. By H. Sundermann, 1939. In German. 2.00

3045-3056 PB M 73373 — Comparative precipitation experiments with biologically active nitrogen compounds. By E. Tränke, 1939. In German. 1.50

3057-3064 PB M 73373 — Antispasmodic actions on the rectum of the frog. By E. Wacker, 1939. In German. 1.50

3065-3075 PB M 73373 — Transmission of Ehrlich's ascites cancer of mice, through organs (free from metastases) of a bearer of the tumor. By A. Wagner, 1939. In German. 1.50

3076-3090 PB M 73373 — Influence of laxatives on the consistency of the intestinal contents: according to experiments on white mice. By M. Walter, 1939. In German. 1.50

3091-3105 PB M 73373 — Injurious effect of silicate cements on live tissues. By H. H. Warneke, 1938. In German. 1.50

3106-3119 PB M 73373 — Co-existance of pigment degeneration of the retina and deafmutism. By H. Weber, 1939. In German. 1.50

3120-3139 PB M 73373 — Eye inflammation and dental diseases with special consideration of uveitis. By F. C. Winkler, 1939. In German. 2.00

3140-3157 PB M 73373 — The effect of intramuscular injections of "Nukleotrat", panoreatic extract, perandeen, and estradiol on the blood picture of normal albinic mice. By G. Wolf, 1939. In German. 2.00

3158 PB M 73373 — This frame is missing.

3159-3172 PB M 73373 — Corneal transplantation for keratitis parenchymatosa : histological findings in the corneal specimen obtained through the trepanation. By M. D. von Wulffen, 1939. In German. 1.50

3173-3188 PB M 73373 — Herpes corneae and keratitis disciformis, according to anatomic examinations of four cases. By M. Axenfeld, 1939. In German. 2.00

3189-3202 PB M 73373 — Tuberous sclerosis combined with chordoryoma. By K. Bächle, 1939. In German. 1.50

Medical Research (contd)

3203-3233 PB M 73373 **Statistics on cancer patients : Origin and prospects of the statistics.** By C. H. Lasch, 1940. In German. 3.50

3234-3236 PB M 73373 **Vitamin C content of human milk before and after boiling.** By R. Albrecht, 1939. In German. 1.50

3237-3253 PB M 73373 **The malignant sympathicoblastoma.** By H. Boldt, 1940. In German. 2.00

3254-3263 PB M 73373 **A case of ponto-cerebellar tumor showing symptoms of multiple sclerosis.** By P. Foemer, 1939. In German. 1.50

3264-3278 PB M 73373 **Clinical and chemical studies in swimmers: Examination of the urine of individuals swimming in the Baltic Sea and the Warnow river for albumen, sediment /erythrocytes, casts/ and specific gravity, and determination of pulse, blood pressure and urinary reaction before and after swimming.** By G. Brenken, 1917. In German. 1.50

3279-3289 PB M 73373 **Results of the treatment of placenta previa in the university hospital at Göttingen from January 1, 1923 to December 31, 1937.** By R. Püttner. In German. 1.50

3290-3292 PB M 73373 **Usefulness of Gander and Niederberger's rapid method for the determination of the saturation deficit of vitamin C.** By H. Burmeister, 1939. In German. 1.50

3293-3304 PB M 73373 **Splen in splene: tissural malformation of the spleen of the type of a "hamartioblastoma splenis in splene".** By S. Burmeister, 1939. In German. 1.50

3305-3321 PB M 73373 **Anaemia gravis after gastric resection.** By D. Eckholdt, 1940. In German. 2.00

PB L 79422. FRASER, JOHN. **Laboratory services: Report of the medical advisory committee (Scotland).** (British Commonwealth Scientific Office Rept BCO-B1a-166). 1947. 9 p. Price: Microfilm-$1.00 - Photostat-$1.00
The committee's function is "to advise on technical matters involved in the development of laboratory services in Scotland having regard to the existing facilities and to the range and quality of service that ought to be available as part of a comprehensive medical service." Recommendations for central and district laboratories are made.

PB M 79395. GREAT BRITAIN. MINISTRY OF PENSIONS. **First report of the standing advisory committee on artificial limbs.** (British Commonwealth Scientific Office Rept BCO-B1a-176). 1947. 9 p. Price: Microfilm-$1.00 - Photostat-$1.00
The committee was charged with investigating certain problems relating to the design, manufacture and fitting of artificial limbs and to receive and study ideas and suggestions submitted by members of the public. The report surveys work done by the research department and discusses liaison with other countries.

PB M 76068. HERRLANN, HEINZ. **The significance of the lactic acid content of surviving and N. S. treated corneas.** (Wilmer Institute Rept 16). Jul 1942. 12 p. Price: Microfilm-$1.00 - Photostat-$1.00
In previous reports, it was pointed out that freshly excised beef corneas contain considerable amounts of lactic acid, that the lactic acid content of such corneas decreases on incubation of the tissue, and that the disappearance of lactic acid from the surviving corneas is inhibited or abolished after moderate exposure of the tissue to mustard gas vapor. The present study was undertaken in the aim of analyzing this phenomenon in greater detail in the hope that the point of attack of mustard gas on the carbohydrate metabolism might be more accurately determined. Tables and bibliography are included.

PB M 77587. TREFFERS, HENRY P. **Immunization to Shiga dysentery.** Contract OEMcmr-499. Progress reports 1-6, Feb 1, 1945-Dec 10, 1945. Dec 1945. 12 p. Price: Microfilm-$1.00 - Photostat-$1.00
Progress reports of experiments on the antigenicity and toxicity of the acetylated Shiga polysaccharide preparations.

METALS AND METAL PRODUCTS

PB L 74414. ALUMINIUM WALZWERK WUTÖSCHINGEN G.M.B.H., WUTÖSCHINGEN. **Reparations inventory.** (FIAT Microfilm Reel GG 105, Frames 4-102) 1946. 99 f.
Price: Microfilm-$1.75 - Enlargement print-$10.00
This reel contains plant data for the above-mentioned plant obtained by the French section of the Control Commission for Germany. Included are a short description of the firm, an inventory of fixed assets, an index key plan of the plant and abbreviations pertinent thereto. In French.

PB L 74391. ALUMINIUMWERKE G.M.B.H., RHEINFELDEN. **Reparations inventory.** (FIAT Microfilm Reel GG 101, Frames 2-10) 1946. 9 f. Price: Microfilm-$1.00-
Enlargement print-$1.50
This reel contains plant data for the above-mentioned plant obtained by the French section of the Control Commission for Germany. Included are a short description of the firm, an inventory of fixed assets, an index key plan of the plant and abbreviations pertinent thereto. In French.

PB L 74353. BECKMANNSHAGEN, ERNST, WUPPERTAL LANGERFELD. **Reparations inventory.** (FIAT Microfilm Reel GG-98, Frames 1-23). 1946. 23 f. Price: Microfilm-$1.00-
Enlargement Print-$2.50
This reel contains plant data for the above-mentioned plant obtained by the British Section of the Control Commission for Germany. Included are a short description of the firm, an inventory of fixed assets, an index key plan of the plant and abbreviations pertinent thereto.

*PB L 79613. BRAMLEY, G.E.A. **Interrogation of Prof. Max Haas, June 18, 1946. (Refining methods of aluminium).** (BIOS Interrogation Rept 372). Dec 1946. 1 p.
Price: Microfilm-$1.00 - Photostat-$1.00
This report covers interrogation of Prof. Max Haas who until the end of the war was associated with Aluminium-Zentrale at Berlin. The object of the interview was an endeavor to obtain further information on the application in Germany during the war of refining methods for the recovery of aluminum from aircraft scrap. Informations received during the interview are recorded.

* PB L 79617. BRITISH INTELLIGENCE OBJECTIVES SUB-COMMITTEE. **Interrogation of Dr. Ing. Helmut Wiedmann. (New organic process of making unalloyed aluminium and its com-**

pounds of scrap aluminium. (Interrogation Rept 393). 2 p. Price: Microfilm-$1.00 - Photostat-$1.00
This report covers an interrogation of Dr. Ing. Helmut Wiedmann who had developed an aluminum alcoholate process to sever and regain aluminum and its alloy parts (copper, zinc, iron, magnesium, silicium etc.) from scrap aluminum. The process is described in this report.

PB L 74634. F. W. BUENDGENS, AACHEN. Machine tools. (FIAT Microfilm Reel L-120, Frames 711-726). 1946. 33 f. Price: Microfilm-$1.25 - Enlargement Print-$3.50
This film, prepared by FIAT in Germany, contains parts lists, detail and assembly drawings of machine tools, representing a reducing machine (Model "KR"), a two spindle milling machine (Model "MF") and a grinding machine (Model "EBS") without accompanying text. It also contains several lists and a number of photographs of various machines, automatic machine tools and apparatus (e.g. pin-, needle-, safety pin machines, etc., grinding-, milling machines and machines for the manufacture of wood screws etc., saw dust-suction apparatus and auxiliary machinery for the manufacture of needles, etc.). In German.

PB L 80831. BUNGARDT, W. and ROHDE, H. The recrystallisation properties of alluminum-magnesium alloys and their effects on the corrosion characteristics. (AAF T-2 Translation 1878; ZWB FB757/1). May 1947. 8 p. Price: Microfilm-$1.00 - Photostat-$1.00
Metallographic analysis of the structural composition of aluminum-magnesium alloys after recrystallisation. The effects of the cold and heat-hardening method, the annealing temperature and the annealing time on the grain size are given. Microphotographs and two recrystallization diagrams of hydronalium (Hy 7) are included.

PB L 74359. BUSCH-JÄGER, LÜDENSCHEIDT. Reparations inventory. (FIAT Microfilm Reel GG-89, Frames 1- 2). 1946. 22 f. Price: Microfilm-$1.00 - Enlargement Print-$2.50
This reel contains plant data for the above mentioned plant obtained by the British Section of the Control Commission for Germany. Included are a short description of the firm, an inventory of fixed assets, an index key plan of the plant and abbreviations pertinent thereto.

PB L 74310. DEUTSCHE GOLD- UND SILBERSCHEIDEANSTALT, HEINFELDEN. Reparations inventory. (FIAT Microfilm Reel GG 104, Frames 1-57) 1946. 57 f. Price: Microfilm-$1.50 - Enlargement print-$6.00
This reel contains plant data for the above-mentioned plant obtained by the French section of the Control Commission for Germany. Included are a short description of the firm, an inventory of fixed assets, an index key plan of the plant and abbreviations pertinent thereto. In French.

PB L 74337. DILLENBERG & CO., DÜSSELDORF. Reparations inventory. (FIAT Microfilm Reel GG-95, Frames 1-111). 1946. 111 f. Price: Microfilm-$1.25 - Photostat-$4.50
This reel contains plant data for the above-mentioned plant obtained by the British Section of the Control Commission for Germany. Included are a short description of the firm, an inventory of fixed assets, an index key plan of the plant and abbreviations pertinent thereto.

PB L 74335. ERBINGHAUS, W. W. LOUIS, HOHENLIMBURG. Reparations inventory. (FIAT Microfilm reel GG 96, Frames 1-111). 1946. 111 f. Price: Microfilm-$2.25 - Enlargement Print-$14.50
This reel contains plant data for the above-mentioned plant obtained by the British Section of the Control Commission for Germany. Included are a short description of the firm, an inventory of fixed assets, an index key plan of the plant and abbreviations pertinent thereto.

* PB L 78651. FARRAR, JOHN F. P. Development of metal bellows in Germany during war years through 1946. (FIAT Final Rept 1076). Mar 1947. 8 p. Price: Mimeo-$0.25
This reports the developments in the manufacture of metal bellows in Germany during the war through 1946; brass bellows of good quality are manufactured, but much more slowly than is common in the United States; however, no developments in the industry purportedly took place during the war and production methods as compared to those in the United States are antiquated. Appendices I and II contain a list of German personnel interviewed and targets visited, Appendix III lists one article evacuated to Washington.

PB L 73753. FORSCHUNGSINSTITUT, MANNESMANN RÖHRENWERKE, HUCKINGEN, GERMANY. Iron and steel research. (FIAT Microfilm Reel W 2, Frames 1263-2544). (Various sections of this reel have been cut out). 1937-1946. 706 f. Price: Microfilm-$6.00 - enlargement print-$71.00
This FIAT microfilm reel consists of 38 reports on iron and steel research, especially steel pipe. The individual reports, listed below, will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
1263-1281 PB L 73753	Alternate tensile strength of boiler plate welds. n. d. In German.	$2.00
1323-1335 PB L 73753	The calculation of strength of carbon steels from the analysis. Aug 27, 1938. In German.	1.50
1336-1351 PB L 73753	Determination of grain sizes. Aug 16, 1938. In German.	2.00
1399-1416 PB L 73753	Strength tests of tubular drill rod connections of manganese steel. (Marine 187 M). Sep 30, 1938. In German.	2.00
1482-1489 PB L 73753	Broken Pilgrim step arbors of Chromium-Nickel-molybdenum steel. Oct 31, 1938. In German.	1.50
1512-1521 PB L 73753	Research of crack corrosion in gas mains. Nov 26, 1938. In German.	1.50
1522-1530 PB L 73753	Investigation of the influence of titanium on cracking tubes of V2A (stainless chromium-nickel) steel. Dec. 8, 1938. In German.	1.50
1531-1548 PB L 73753	Alternate-bending tests of tubes of chromium-molybdenum steel for airplane construction. Dec 9, 1938. In German.	2.00
1549-1567 PB L 73753	Experiments with light steel as material for gas cylinders. Dec 10, 1938. In German.	2.00
1568-1574 PB L 73753	Stay bolts of "Igett" steel. Dec 29, 1938. In German.	1.50
1598-1614, 2462-2495 PB L 73753	Internal pressure tests of smooth and corrugated steel pipes. Jan 31 and Nov 23, 1939. In German.	7.50

1615-1630 PB L 73753 — Welding tests with the press-coated electrode "Chromowo". Jan 19, 1939. In German. 2.00

1631-1643 PB L 73753 — Welding test by the Ellira method. Jan 19, 1939. In German. 1.50

1644-1654 PB L 73753 — Heat treatment of armored punches made of VCMo 240. Jan 24, 1939. In German. 1.50

1655-1689 PB L 73753 — Butt-welding tests of pipes made of stainless steel. Feb 11, 1939. In German. 3.50

1697-1721 PB L 73753 — Corrosion of light-steel cylinders for coal gas and methane. Feb 17, 1939. In German. 2.50

1722-1760 PB L 73753 — These frames are missing.

1761-1768 PB L 73753 — Influence of the "EU" values (approximate measure of energy absorption by the melt) upon the magnetic properties in making transformer steel. Mar 10, 1939. In German. 1.50

1769-1780 PB L 73753 — Pipes of Corrostite steel. Feb 24, 1939. In German. 1.50

1781-1869 PB L 73753 — These frames are missing.

1870-1885 PB L 73753 — Tubes of chromium-molybdenum-vanadium steel. "Mbrwe 300 Z". Mar 31, 1939. In German. 2.00

1886-1900 PB L 73753 — Oxyacetylene-welded tubes of chromium-molybdenum-vanadium steel. Apr 6, 1939. In German. 1.50

1901-1918 2415-2430 PB L 73753 — Production of butt-welded tubes from cut sheet metal strips. Apr 13 and Nov 13, 1939. In German. 3.50

1919-1942 PB L 73753 — These frames are missing.

1943-1954 PB L 73753 — Increase of the creep strength of chromium-molybdenum steel. Apr 14, 1939. In German. 1.50

1955-1967 PB L 73753 — These frames were cancelled.

1968-1996 PB L 73753 — Investigation of the high temperature characteristics of chromium-silicon steels. May 11, 1939. In German. 3.00

1997-2069 PB L 73753 — These frames are missing.

2070-2088 PB L 73753 — Butt-welding tests of material for superheater tubes. Jun 7, 1939. In German. 2.00

2089-2099 PB L 73753 — These frames were cancelled.

2100-2109 PB L 73753 — Tests of light-steel cylinders made of manganese-molybdenum and manganese steels. Jun 8, 1939. In German. 1.50

2110-2141 PB L 73753 — These frames are missing.

2142-2173 PB L 73753 — Comprehensive report of the examination of blast-furnace slag. Aug 12, 1939. In German. 3.50

2174-2193 PB L 73753 — Test of strength of Komotau drill-rod tubes. Aug 21, 1939. In German. 2.00

2194-2206 PB L 73753 — Corrosion tests of varnishes as substitutes for zinc plating (for sheet iron). Jul 19, 1939. In German. 1.50

2207-2241 PB L 73753 — These frames are missing.

2242-2275 PB L 73753 — The behavior with regard to creep strength of coarse and fine-grained steel. Aug 31, 1939. In German. 3.50

2276-2305 PB L 73753 — These frames are missing.

2306-2327 PB L 73753 — Tubes welded by the Ellira process. Sep 26, 1939. In German. 2.50

2328-2356 PB L 73753 — These frames are missing.

2357-2387 PB L 73753 — Copper-plated steel tubes. Nov 11, 1939. In German. 3.50

2388-2404 PB L 73753 — Comprehensive report of the examination of chromium-magnesite stones for open-hearth furnaces. Oct 23, 1939. In German. 2.00

2405-2414 2535-2544 PB L 73753 — The interrelation between the furnace age and the quality of the charge in open-hearth furnaces. Aug 11 and May 12, 1939. In German. 2.00

2415-2430 PB L 73753 — Continuation of frame 1901-1918.

2431-2461 PB L 73753 — These frames are missing.

2462-2495 PB L 73753 — Continuation of frames 1588-1614.

2496-2534 PB L 73753 — Production of Asbestos-Cement-Jackets by the Dalmine process. Nov 30, 1939. In German. 4.00

2535-2544 PB L 73753 — Continuation of frames 2405-2414.

PB L 73753-S. FORSCHUNGSINSTITUT, MANNESMANN RÖHRENWERK, HUCKINGEN, GERMANY. Iron and steel research. (FIAT Microfilm Reel W 2, Frames 1263-2549, abstract cards). (Various sections of this reel have been cut out). 1937-1946. 57 p. Price: Microfilm-$2.00 - photostat-$4.00
This report consists of brief abstracts, prepared by FIAT personnel in Germany of FIAT microfilm reel W 2 (PB L 73753) abstracted above.

PB L 74313. FÜRSTLICHE HOHENZOLLERSCHE HÜTTENVERWALTUNG, LAUCHERTAL. Reparations inventory. (FIAT Microfilm Reel GG 100, Frames 1-21) 1946. 21 f. Price: Microfilm-$1.00 - Enlargement print-$2.50
This reel contains plant data for the above-mentioned plant obtained by the French section of the Control Commission for Germany. Included are a short description of the firm, an inventory of fixed assets, an index key plan of the plant and abbreviations pertinent thereto. In French.

PB L 52009. GERMANY, REICHSAMT FÜR WIRTSCHAFTSAUSBAU. Chemische Berichte, Dec 1941. First meeting of the coopera-

itive group for alumina. Mar 14, 1941. Dec 1941. 78 p. Price: Microfilm-$2.00 - Photostat-$6.00
An abstract of the above report is found in this issue of the Bibliography under "Chemicals and Allied Products--Miscellaneous Chemicals."

PB L 74307. BRÜDER GIULINI G.M.B.H., LUDWIGSHAFEN. Reparations inventory. (FIAT Microfilm Reels GG 102, GG 102a, GG 102b, Frames 1-476) 1947. 476 f. Price: Microfilm-$5.75 - Enlargement print-$48.00
This reel contains plant data for the above-mentioned plant obtained by the French section of the Control Commission for Germany. Included are a short description of the firm, an inventory of fixed assets, an index key plan of the plant and abbreviations pertinent thereto. In French.

PB L 74368. GOLDSCHMIDT, TH., G.M.B.H., ESSEN. Reparations inventory. (FIAT Microfilm reel GG-91, Frames 1-212). 1946. 212 f. Price: Microfilm-$3.00 - Enlargement Print-$21.50
This reel contains plant data for the above mentioned plant obtained by the British Section of the Control Commission for Germany. Included are a short description of the firm, an inventory of fixed assets, an index key plan of the plant and abbreviations pertinent thereto.

PB L 74408. GREAT BRITAIN. MINISTRY OF SUPPLY. Processes for the anodic oxidation of aluminium and aluminium alloy parts, including amendment list no. 1. (Process Specification D.T.D. 910B; British Commonwealth Scientific Office Rept 66-B20-96b). Jan 1944. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
These processes are for use on aluminum and aluminum-rich alloy parts, and are not suitable for composite parts embodying other materials unless these are adequately "stopped off".

PB L 74375. HEMECKER, GUSTAV, HOHENLIMBURG. Reparations inventory. (FIAT Microfilm reel GG-87, Frames 1-43). 1946. 43 f. Price: Microfilm-$1.25 - Enlargement Print-$4.50
This reel contains plant data for the above mentioned plant obtained by the British Section of the Control Commission for Germany. Included are a short description of the firm, an inventory of fixed assets, an index key plan of the plant and abbreviations pertinent thereto.

PB L 74318. HOEPPELT, ROBERT, HAMBURG-ALTONA. Reparations inventory. (FIAT Microfilm reel GG 77, Frames 1-54). 1946. 54 f. Price: Microfilm-$1.50 - Enlargement Print-$5.50.
This reel contains plant data for the above-mentioned plant obtained by the British Section of the Control Commission for Germany. Included are a short description of the firm, an inventory of fixed assets, an index key plan of the plant and abbreviations pertinent thereto.

PB L 74320. HUECK, EDUARD, K. G., LÜDENSCHEID. Reparations inventory. (FIAT Microfilm reel GG 81, Frames 1-26). 1946. 26 f. Price: Microfilm-$1.25 - Enlargement Print-$3.00
This reel contains plant data for the above-mentioned plant obtained by the British Section of the Control Commision for Germany. Included are a short description of the firm, an inventory of fixed assets, an index key plan of the plant and abbreviations pertinent thereto.

PB L 74348. HUETTE, HANS HEINRICH, LANGELSHEIM. Reparations inventory. (FIAT Microfilm Reel GG-76, Frames 1-9). 1946. 9 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
This reel contains plant data for the above-mentioned plant obtained by the British Section of the Control Commission for Germany. Included are a short description of the firm, an inventory of fixed assets, an index key plan of the plant and abbreviations pertinent thereto.

PB L 74259. I. G. FARBENINDUSTRIE A. G., BITTERFELD, GERMANY. Production of alloys. (FIAT Microfilm Reel CC-146, Frames 2401-3066). 1935-1944. 566 f. Price: Microfilm-$6.00 - Enlargement print - $57.00
This reel was prepared by FIAT investigators in Germany. Individual items are listed below and will be available as enlargement prints. Please include PB and frame numbers when ordering invididual items. In German.

Frames	Title	Price
2401-2507 PB L 74259	Processing of "Mansfeld" furnace cast pigs. In German.	$11.00
2508-2519 PB L 74259	Manufacture of ferro-vanadium from brown sludge. In German.	1.50
2520-2541 PB L 74259	Production of ferro-titanium with 38-42% Ti. In German.	2.50
2542-2568 PB L 74259	Aluminothermal production of ferro-titanium alloys of different composition. In German.	3.00
2569-2575 PB L 74259	Aluminothermal production of ferro-boron. In German.	2.00
2576-2584 PB L 74259	Manufacture of chromium metal by means of alkalithermal reduction. In German.	1.50
2585-2591 PB L 74259	Alumino-thermal manufacture of ferro-tungsten. In German.	1.50
2592-2598 PB L 74259	Production of ferro-columbium tantatum by means of the aluminothermal reduction. In German.	1.50
2599-2607 PB L 74259	Manufacture of calcium-aluminum-titanium alloys. In German.	1.50
2608-2716 PB L 74259	Extraction of cobalt, nickel and copper from black sludge sediments of Mansfelder furnace pigs. In German.	1.50
2610-2709	These frames are missing.	
2717-2730 PB L 74259	Production of V_2O_3 from the first Thomas slag cart containing vanadium of the "Dortmund Hörder Hüttenverein." In German.	1.50
2731-2745 PB L 74259	Processing of molybdenite containing copper. In German.	1.50
2746-2761 PB L 74259	Tests for processing soot containing vanadium. In German.	2.00
2762-2768 PB L 74259	Production of ferro-columbium from residues of tantalum manufacture by Siemens-Schuckert Werke. In German.	1.50

2769-2775 PB L 74259 — Manufacture of chromium metal from ferro-chromium containing carbon by means of electrolysis. According to patent application L 87769 VI/40c of March 20, 1936. In German. 1.50

2776-2780 PB L 74259 — Production of ferro-titanium with approx. 40 % Ti. In German. 1.50

2781-2786 PB L 74259 — Tests for producing alkali molybdenum products and such of a low arsenic content from smelts of Mansfelder pig furnaces. In German. 1.50

2787-2827 PB L 74259 — Investigations of burning speeds and explosive properties of metal oxides. In German. 4.00

2828-2849 PB L 74259 — Determination of the hydrogen content in tungsten, molybdenum, chromium, ferro-tungsten, ferro-molybdenum, ferro-vanadium and ferro-manganese. In German. 2.50

2850-2859 PB L 74259 — Agglomeration of dust and ore by sintering. In German. 1.50

2860-2868 PB L 74259 — Production of ferro-molybdenum low in carbon by means of the silico thermal process. In German. 1.50

2869-2878 PB L 74259 — Manufacture of manganese metal by means of the alumino-thermal process. In German. 1.50

2879-2920 PB L 74259 — Production of ferro-chromium low in carbon. In German. 4.50

2921-2926 PB L 74259 — Material investigation of alkali smelting tanks. In German. 1.50

2927-2939 PB L 74259 — Use of Elektron powder. In German. 1.50

2940-2956 PB L 74259 — Reduction of Al_2O_3 by means of coal under decreased pressure. In German. 2.00

2957-2978 PB L 74259 — Production of cobalt metal powder free of alkali. In German. 2.50

2979-2989 PB L 74259 — Manufacture of cobalt metal powder for hard metals. In German. 1.50

2990-3010 PB L 74259 — Quantitative spectral analysis of hydronalium alloys. In German. 2.50

3011-3018 PB L 74259 — Spectro analytical investigations of light metals. In German. 1.50

3019-3032 PB L 74259 — Quantitative spectral analysis of Elektron alloys. In German. 1.50

3033-3039 PB L 74259 — Quantitative spectro analytical determination of chromium and titanium in hydronalium. In German. 1.50

3040-3046 PB L 74259 — Intermediate report on an after treatment of Nioxal layers. In German. 1.50

3047-3053 PB L 74259 — Test for changing over to homogenizing of sheet metal in the salt bath before final annealing. In German. 1.50

3054-3062 PB L 74259 — Reversed segregation in chill casting blocks. In German. 1.50

3063-3066 PB L 74259 — Sulfur determination in sand shaped castings, core wires and form sand of the British Moulds Ltd. In German. 1.50

PB L 73714. KRUPP, FRIEDRICH, WERKE, ESSEN, GERMANY. Metallurgical investigations of chromium-cobalt alloys and other hard metals of different structure. (FIAT Microfilm Reel L 61, Frames 4200-4434). 1936-1943. 235 f. Price: Microfilm-$3.25 - enlargement print-$22.50
This reel was prepared by FIAT investigators in Germany. Individual items are listed below and will be available as enlargement prints. Please include PB and frame numbers when ordering individual items. In German.

Frames	Title	Price
4200-4212 PB L 73714	The carbon-nickel-nickel sulfide system in the range important for the desulfurization of nickel-matte. Apr 18, 1941. In German.	$1.50
4213-4230 PB L 73714	Examinations of the structure of chromium-cobalt (Percit) alloys. Jan 21, 1938. In German.	2.00
4231-4243 PB L 73714	Chromium-cobalt (Percit) hard metal alloys). Apr 12, 1938. In German.	1.50
4244-4248 PB L 73714	Chromium-cobalt (Percit) alloys containing iron and molybdenum with or without boron. May 16, 1938. In German.	1.50
4249-4251 4252-4253 PB L 73714	Difficulties in the production of chromium-cobalt hard metals. Jul 19, 1938 and Aug 12, 1938. In German.	1.50
4254-4259 PB L 73714	Rolling of chromium-cobalt hard metals. Oct 11, 1938. In German.	1.50
4260-4263 PB L 73714	Use of German cobalt for chromium-cobalt alloys. Jun 13, 1939. In German.	1.50
4264-4272 PB L 73714	Chromium-cobalt (Percit extra) analyses. Aug 13, 1940. In German.	1.50
4273-4275 PB L 73714	Detection of cavities in welding rod by means of resistance measurements. Feb 5, 1941. In German.	1.50
4276-4281 PB L 73714	Production of chromium-cobalt (Percit) welding rod. Feb 26, 1941. In German.	1.50
4282-4289 PB L 73714	Tests on chromium-cobalt (Percit E) hard metals. Apr 30, 1941. In German.	1.50
4290-4305 PB L 73714	Conduct of the melting operation of chromium-cobalt (Percit-extra). Apr 30, 1941. In German.	2.00
4306-4310 PB L 73714	Remelting of chromium-cobalt (Percit) rods. Jun 5, 1941. In German.	1.50
4311-4312 PB L 73714	Casting chromium-cobalt (Percit) in wet sand. Jun 16, 1941. In German.	1.50
4313-4342 PB L 73714	The carbon, silicon, manganese, and boron content of chromium-cobalt (Percit E) hard metals. Jul 15, 1941. In German.	3.00
4343-4350 PB L 73714	Behavior of chromium-cobalt hard metals of different compositions when welded. Aug 9, 1941. In German.	1.50

4361-4363 PB L 73714 — Solidification range of chromium-cobalt alloys (Percit) dependent on the silicon content. Aug 29, 1941. In German. 1.50

4364-4360 PB L 73714 — Formation of films on chromium-cobalt melts (Percit). Nov 15, 1941. In German. 1.50

4361-4362 PB L 73714 — Production of chromium steel welding rod by forging or rolling. Nov 15, 1941. In German. 1.50

4363 PB L 73714 — Production of chrome steel welding rod by forging and rolling. Jan 27, 1942. In German. 1.50

4364-4365 PB L 73714 — Welding tests on chrome steel welding rod. Dec 22, 1941. In German. 1.50

4366-4370 PB L 73714 — Recovery of metal from chromium-cobalt (Percit) grinding dust. Mar 18, 1942. In German. 1.50

4371-4377 PB L 73714 — Pores in chromium-cobalt (Percit E) weldings. May 21, 1942. In German. 1.50

4378-4390 PB L 73714 — The silicon-manganese equilibrium in chromium-cobalt melts (Percit E). Jun 8, 1942. In German. 1.50

4391-4393 PB L 73714 — Recovery of chromium-cobalt grindings of carborundum grinding discs. Aug 28, 1942. In German. 1.50

4394-4406 PB L 73714 — Development of the production of chromium-cobalt (Percit) since January 1941. Mar 18, 1943. In German. 1.50

4407-4409 PB L 73714 — The effect of a titanium addition of 4% on the ability of chromium-cobalt alloys to hold an edge. May 28, 1936. In German. 1.50

4410 PB L 73714 — Wearability of forged chromium-cobalt (Percit) hard metals. Sep 17, 1936. In German. 1.50

4411-4413 PB L 73714 — Wearability of hard facings with chromium-cobalt alloys. Sep 15, 1937. In German. 1.50

4414-4415 PB L 73714 — Hot hardness of chromium-cobalt alloys (Percit, Thermodur, and P 427). Dec 1, 1937. In German. 1.50

4416-4418 PB L 73714 — Tests on the cutting efficiency of chromium-cobalt alloys (Percit). Sep 12, 1938. In German. 1.50

4419-4423 PB L 73714 — Wearability tests of chromium-cobalt (Percit) hard-facing. Apr 28, 1940. In German. 1.50

4424-4427 PB L 73714 — The ability of sintered chromium-cobalt alloys (Stellit) to hold an edge. Jul 11, 1941. In German. 1.50

4428 PB L 73714 — The modulus of elasticity of chromium-cobalt alloys (Stellit and Widia). Aug 18, 1941. (Aug 28, 1941). In German. 1.50

4429-4430 PB L 73714 — Endurance tests on two chromium-cobalt (Stellit) alloys at 800°C. Dec 10, 1943. In German. 1.50

4431-4434 PB L 73714 — Resistance to corrosion of the chromium-cobalt alloy Thermodur. Jul 13, 1937. In German. 1.50

PB L 73714-S. KRUPP, FRIEDRICH, WERKE, ESSEN, GERMANY. Metallurgical investigations of chromium-cobalt alloys and other hard metals of different structure. (FIAT Microfilm Reel L 61, Frames 4200-4434, abstract cards). 1936-1943. 40 p. Price: Microfilm-$1.00 - Photostat-$4.00
Brief abstracts of the individual items on the above reel L 61, PB L 73714, prepared by FIAT personnel in Germany.

PB L 74798. KRUPP, FRIEDRICH, WERKE, ESSEN, GERMANY. Metallurgical processes with carbonyl iron, nitrated steel and other steels. (FIAT Microfilm Reel L-43, Frames 1586-2095.) 1936-1944. 510 f. Price: Microfilm-$6.00 - Enlargement print-$51.50
This reel was prepared by FIAT investigators in Germany. Individual items are listed below and will be available as enlargement prints. Please include PB and frame numbers when ordering individual items. In German.

Frames	Title	Price
1586-1593 PB L 74798	Compression and impact samples of nitrided steels. n. d. In German.	$1.50
1594-1596 PB L 74798	Bending tests with nitrided steels. Jan 7, 1942. In German.	1.50
1597-1608 PB L 74798	The brittleness of nitrided layer on steels. May 16, 1942. In German.	1.50
1609-1618 PB L 74798	The brittleness of the nitrided layer especially of steels containing aluminum. Dec 17, 1942. In German.	1.50
1619-1666 PB L 74798	Comparison between gaseous and liquid nitriding of steels. Aug 16, 1944. In German.	5.00
1667-1672 PB L 74798	Determining the nitrogen penetration depth on various nitrided steels. Jun 30, 1936. In German.	1.50
1673-1676 PB L 74798	Steel surface hardness in relation to the nitriding temperature. Apr 30, 1940. In German.	1.50
1677-1679 PB L 74798	Influence of the nitriding temperature on the toughness of nitrided layers. Apr 10, 1941. In German.	1.50
1680-1695 PB L 74798	Tests to accelerate the nitriding process. Feb 1944. In German.	2.00
1696-1703 PB L 74798	The acceleration of the nitriding process by solid coatings. Oct 6, 1942. In German.	1.50
1704-1710 1711-1714 1715-1728 1729-1735 1736-1740 1741-1743 PB L 74798	Accelerating the nitriding process by internal material stresses. Dec 5, 1939, Jul 1 and 30, and Oct 1940; Feb 21 and 19 and Jul 1940. In German.	4.00
1744-1748 PB L 74798	Nitriding of steels with high frequency heating. Mar 21, 1944. In German.	1.50
1749-1754 PB L 74798	Nitriding under the influence of mechanical oscillations and high frequency heating. Aug 28, 1944. In German.	1.50
1755-1764 PB L 74798	Nitriding of ionized gases. Oct 22, 1937. In German.	1.50
1765-1770 PB L 74798	Nitriding of ionized gases. Nov 5, 1937. In German.	1.50

1771-1776 PB L 74798 — Nitriding in activated nitrogen. Apr 11, 19[illegible]. In German. 1.50

1777-1788 PB L 74798 — Nitriding in activated nitrogen and ammonia. May 21, 1941. In German. 1.50

1789-1791 PB L 74798 — Examination of steel samples nitrided in the canal ray kiln. Oct 3, 1941. In German. 1.50

1792-1820 PB L 74798 — Comprehensive evaluation of tests made in the canal ray kiln and by means of the normal nitriding method. Jul 3, 1942. In German. 3.00

1821-1850 PB L 74798 — Tests for nitriding under the influence of a canal ray discharge. Mar 10, 1943. In German. 3.00

1851-1854 PB L 74798 — Nitriding the normal structural steels in the canal ray kiln. Jun 8, 1943. In German. 1.50

1855-1857 PB L 74798 — Nitriding tests with thin sheets under the influence of glow discharge. Jul 16, 1943. In German. 1.50

1858-1859 PB L 74798 — Nitriding by activated nitrogen. Aug 17, 1944. In German. 1.50

1860-1864 PB L 74798 — Hydrogen pressure resistance of manganese-titanium steel. Mar 1, 1944. In German. 1.50

1865-1867 PB L 74798 — Pressurized hydrogen decarburization of rings of silicon-carbon steel Hyperm 5. Mar 23, 1944. In German. 1.50

1868-1870 PB L 74798 — Continuous annealing of nitrided steel. Sep 15, 1938. In German. 1.50

1871-1875 PB L 74798 — Decrease in nitriding during continuous annealing of nitrided steels containing aluminum. Nov 6, 1941. In German. 1.50

1876-1883 PB L 74798 — Nitriding tests with various covering agents. Aug 16, 1937. In German. 1.50

1884-1887 PB L 74798 — Further tests with agents protecting against nitriding. Feb 16, 1938. In German. 1.50

1888-1891 PB L 74798 — Copper-plating as a protection against nitriding. Mar 29, 1939. In German. 1.50

1892-1895 PB L 74798 — Protection against nitriding by galvanizing. Jan 17, 1941 and Oct 10, 1940. In German. 1.50

1896 PB L 74798 — Protection against nitriding by galvanizing. Mar 4, 1941. In German. 1.50

1897-1898 PB L 74798 — Agents for protection against nitriding used by Schlüter & Co., Lübeck. Apr 9, 1942. In German. 1.50

1899-1905 PB L 74798 — Hydrogen permeability of steels. Nov 10, 1936, Dec 18, 1936. In German. 1.50

1906-1913 PB L 74798 — The dependence of hydrogen diffusion on temperature. Jan 19, 1937. In German. 1.50

1914-1918 PB L 74798 — Diffusion tests on cylindrical samples of pure iron, and determination of hydrogen. Jan 28, 1938. In German. 1.50

1919-1932 PB L 74798 — Diffusion tests with and hydrogen permeability of quartz. Apr 5, 1938. In German. 1.50

1933-1941 PB L 74798 — Solubility of hydrogen in iron-manganese alloys. Jul 18, 1938. In German. 2.00

1942-1951 PB L 74798 — Evaluation of extraction tests for determining the diffusion constant. Nov 23, 1938. In German. 1.50

1952-1965 PB L 74798 — Determination of the hydrogen permeability of soft iron and steel susceptible to flaking at different temperatures. Mar 3, 1939. In German. 1.50

1966-1967 PB L 74798 — Gas determination method by Chaudron. Mar 8, 1939. In German. 1.50

1968-1970 PB L 74798 — Varying hydrogen absorption of chromium-nitrogen-molybdenum steel during annealing in hydrogen or illuminating gas. Mar 14, 1939. In German. 1.50

1971-1975 PB L 74798 — Examination of the martensite formation by hydrogen in a specimen exposed to wear. Mar 14, 1939. In German. 1.50

1976-1983 PB L 74798 — Permeability to nascent hydrogen of various steel sheets. Apr 19, 1939. In German. 1.50

1984-1996 PB L 74798 — The state of tests on the hydrogen determination in steel. Jun 20, 1939. In German. 1.50

1997-2000 PB L 74798 — Hydrogen solubility of alloyed and plain steel. 1940. In German. 1.50

2001-2032 PB L 74798 — Hydrogen permeability of various steels between 350° and 1050°C. Sep 23, 1940. In German. 3.50

2033-2036 PB L 74798 — Proportion of hydrogen extracted at 400°C and from 400-1150°C to the total hydrogen content in casting samples. Jun 1, 1942. In German. 1.50

2037-2041 PB L 74798 — The development of a method for testing the resistance to pressurized hydrogen. Mar 21, 1944. In German. 1.50

2042-2047 PB L 74798 — Brittleness caused by hydrogen saturation. Jul 7, 1944. In German. 1.50

2048-2051 PB L 74798 — Method for testing the resistance to hydrogen. Sep 28, 1944. In German. 1.50

2052-2053 PB L 74798 — Resistance of steels to hydrogen. Apr 3, 1936. In German. 1.50

2054-2071 PB L 74798 — Hydrogen high pressure tests on plain steels. Apr 3, 1946. In German. 2.00

2072-2074 PB L 74798 — The influence of cold working on the resistance to hydrogen of chrome steel FK 2123. Aug 12, 1938. In German. 1.50

2075-2077 PB L 74798 — The resistance to hydrogen of the chrome steel FK DW 10. Dec 28, 1938. In German. 1.50

2078-2079
2080-2083
PB L 74798 Hydrogen resistance of the chrome-tungsten steel FK DM 8. Sep 22, 1939. In German. 1.50

2084-2095
PB L 74796 Hydrogen high pressure tests on substitute steels having a base of 3% chromium. May 1940. In German. 1.50

PB L 74798-S. KRUPP, FRIEDRICH, WERKE, ESSEN, GERMANY. Metallurgical processes with carbonyl iron, nitrided steel and other steel. (FIAT Microfilm Reel M 43, Frames 1588-2095, abstract cards). 1936-1944. 73 p. Price: Microfilm-$2.00 - Photostat-$6.00
Brief abstracts of the individual items on the above reel M-43, PB L 74798, prepared by FIAT personnel in Germany.

PB L 74392. KUEPPERSBUSCH, ALBERT, K.G., LANGENBERG. Reparations inventory. (FIAT Microfilm reel GG-70, Frames 1-36). 1946. 36 f. Price: Microfilm-$1.25 - Enlargement Print-$4.00
This reel contains plant data for the above mentioned plant obtained by the British Section of the Control Commission for Germany. Included are a short description of the firm, an inventory of fixed assets, an index key plan of the plant and abbreviations pertinent thereto.

PB L 74358. KUPFERHÜTTE ERTEL DIEBER & CO., HAMBURG. Reparations inventory. (FIAT Microfilm Reel GG-66, Frames 1-112). 1946. 112 f. Price: Microfilm-$2.25 - Enlargement Print-$14.50
This reel contains plant data for the above mentioned plant obtained by the British Section of the Control Commission for Germany. Included are a short description of the firm, an inventory of fixed assets, an index key plan of the plant and abbreviations pertinent thereto.

PB L 74343. LENZE, AUGUST, METALLGIESSEREI K.G., KÖLN-MÜLHEIM. Reparations inventory. (FIAT Microfilm Reel GG-71, Frames 1-44). 1946. 44 f. Price: Microfilm-$1.25 - Enlargement Print-$4.50
This reel contains plant data for the above-mentioned plant obtained by the British Section of the Control Commission for Germany. Included are a short description of the firm, an inventory of fixed assets, an index key plan of the plant and abbreviations pertinent thereto.

PB L 74402. MARTINWERK G.M.B.H., BERGHEIM/ERFT. Reparations inventory. (FIAT Microfilm reel GG-60, Frames 1-72). 1946. 72 f. Price: Microfilm-$1.50 - Enlargement Print-$7.50
This reel contains plant data for the above mentioned plant obtained by the British Section of the Control Commission for Germany. Included are a short description of the firm, an inventory of fixed assets, an index key plan of the plant and abbreviations pertinent thereto.

PB L 74316. METALLWERKE ALBERT WILDFANG, GELSENKIRCHEN. Reparations inventory. (FIAT Microfilm reel GG 92, Frames 1-42). 1947. 42 f. Price: Microfilm-$1.25 - Enlargement Print-$4.50
This reel contains plant data for the above-mentioned plant obtained by the British Section of the Control Commission for Germany. Included are a short description of the firm, an inventory of fixed assets, an index key plan of the plant and abbreviations pertinent thereto.

PB L 74334. METALLWERKE UNTERWESER A.G., NORDENHAM. Reparations inventory. (FIAT Microfilm reel GG 69. Frames 1-272). 1947. 272 f. Price: Microfilm-$3.50 - Enlargement print-$27.50
This reel contains plant data for the above-mentioned plant obtained by the British Section of the Control Commission for Germany. Included are a short description of the firm, an inventory of fixed assets, an index key plan of the plant and abbreviations pertinent thereto.

PB L 74349. OTTAVI MINEN, BLUMBERG. Reparations inventory. (FIAT Microfilm Reel GG 103, Frames 1-22) 1946. 22 f. Price: Microfilm-$1.00 - Enlargement print-$2.50
This reel contains plant data for the above-mentioned plant obtained by the French section of the Control Commission for Germany. Included are a short description of the firm, an inventory of fixed assets, an index key plan of the plant and abbreviations pertinent thereto. In French.

PB L 74324. PIEL & ADEY, SOLINGEN. Reparations inventory. (FIAT Microfilm reel GG 86, Frames 1-48). 1946. 48 f. Price: Microfilm-$1.25 - Enlargement Print-$5.00
This reel contains plant data for the above-mentioned plant obtained by the British Section of the Control Commission for Germany. Included are a short description of the firm, an inventory of fixed assets, an index key plan of the plant and abbreviations pertinent thereto.

PB L 74332. RHEINISCHE BLATTMETALL A.G., GREVENBROICH. Reparations inventory. (FIAT Microfilm reel GG-67, Frames 1-89). 1946. 89 f. Price: Microfilm-$1.75 - Enlargement Print-$9.00
This reel contains plant data for the above-mentioned plant obtained by the British Section of the Control Commission for Germany. Included are a short description of the firm, an inventory of fixed assets, an index key plan of the plant and abbreviations pertinent thereto.

PB L 81022. ROGERS, R. R. and others. Corrosion resistance of magnesium and certain of its alloys under various accelerated atmospheric conditions. Oct 1946. 8 p. Price: Microfilm-$1.00 - Photostat-$1.00
The purpose of the present investigation was to determine the corrosion resistance of commercially pure magnesium and of the magnesium alloys AZ31X, AZ61X and M-1, by the use of accelerated tests. The conditions to be represented in the tests were: (1) inland indoor atmospheric, (2) inland outdoor atmospheric, and (3) marine atmospheric. The experimental results indicated that these metals offer good resistance to corrosion under the first two conditions but much less resistance to corrosion under the third condition. It is pointed out that most of these metals should resist marine atmospheric conditions satisfactorily when properly protected with paint. This preprint of the Electrochemical Society was presented at the ninetieth general meeting held at Toronto, Canada, Oct. 16, 17, 18, 19, 1946.

PB L 81023. ROGERS, R. R. and DINGLEY, W. The effect of small lead and silver additions on the corrosion resistance of castings of magnesium and certain of its alloys at elevated temperature and high humidity. Apr 1947. 9 p. Price: Microfilm-$1.00 - Photostat-$1.00
The corrosion resistance of commercially pure magnesium, and the AZ80x, AZ63x and M1 magnesium alloys, with and without small silver, lead or silver-lead additions, in air at 204° F (95.5° C) and high relative humidity was investigated. It was found that the average corrosion rate of all these materials may be considerably decreased by the addition of 1% silver. Other additions studied also produce a considerable decrease. These additions do not increase the specific gravity of the metals to a great extent. This preprint of the Electrochemical Society was presented at the ninety-first general meeting held at Louisville, Ky. Apr. 9, 10, 11, 12, 1947.

PB L 74347. SAMM, GEBRÜDER, VELBERT. Reparations inventory. (FIAT Microfilm Reel GG 73, Frames 1-33). 1946. 33 f. Price: Microfilm-$1.25 - Enlargement Print-$3.50
This reel contains plant data for the above-mentioned plant obtained by the British Section of the Control Commission for Germany. Included are a short description of the firm, an inventory of fixed assets, an index key plan of the plant and abbreviations pertinent thereto.

PB L 74393. SCHREIBER, PETER, DÜSSELDORF. Reparations inventory. (FIAT Microfilm reel GG-74, Frames 1-29). 1946. 29 f. Price: Microfilm-1.25 - Enlargement Print-$3.00
This reel contains plant data for the above mentioned plant obtained by the British Section of the Control Commission for Germany. Included are a short description of the firm, an inventory of fixed assets, an index key plan of the plant and abbreviations pertinent thereto.

PB L 74686. SCHUMAG METALLWERKE A.G., AACHEN. Bar drawing machine and manufacture of sewing machine needles. (FIAT Microfilm Reel L-118, Frames 1-21). n. d. 21 f. Price: Microfilm-$1.00 - Enlargement Print-$2.50
The subject matter is a prospectus in the English language, which concerns a continuous bar or rod drawing machine provided with a straightening and polishing machine for round bars. The film also contains keyword data, in German, concerning the main operations in the fabrication of sewing machine needles (required machines, needed wire material, required time).

PB L 74345. SCHWIETZKE METALLWERKE, KREFELD. Reparations inventory. (FIAT Microfilm Reel GG-85, Frames 1-42). 1946. 42 f. Price: Microfilm-$1.25 - Enlargement Print-$4.50
This reel contains plant data for the above-mentioned plant obtained by the British Section of the Control Commission for Germany. Included are a short description of the firm, an inventory of fixed assets, an index key plan of the plant and abbreviations pertinent thereto.

PB L 74379. STAHLWERK MARK METALLURGIE A.G., HAMBURG-WILHELMSBURG. Reparations inventory. (FIAT Microfilm Reel GG-58, Frames 1-93). 1946. 93 f. Price: Microfilm-$1.75 - Enlargement Print-$9.50
This reel contains plant data for the above mentioned plant obtained by the British Section of the Control Commission for Germany. Included are a short description of the firm, an inventory of fixed assets, an index key plan of the plant and abbreviations pertinent thereto.

PB L 74376. STOLBERGER METALLWERKE K.G., STOLBERG. Reparations inventory. (FIAT Microfilm reel GG-68, Frames 1-296. 1946. 282 f. Price: Microfilm-$3.75 - Enlargement Print-$28.50
This reel contains plant data for the above mentioned plant obtained by the British Section of the Control Commission for Germany. Included are a short description of the firm, an inventory of fixed assets, an index key plan of the plant and abbreviations pertinent thereto.

PB L 80828. ULSAMER and others. Spot-etching apparatus for light metals. (AAF T-2 Translation 1863). May 1947. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
To simplify the recognition of various light metals, a simplified spot-etching apparatus has been designed, which changes the characteristics of the various alloys. To accurately determine them, it is necessary to remove possible films of oxide on the test samples. A group of samples has been tested and the characteristics caused by the drops are described.

PB L 26398-R. U. S. AERONAUTICAL BOARD. Envelope-engine protective (for V-1710 engines). (Revision of Ps 26398, vol. 3, p. 595). (Army-Navy Aeronautical Standard Drawing AN 4086, rev.). Dec 1946. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 74401. V.A.W. LIPPEWERK, LÜNEN-LIPPOLTSHAUSEN. Reparations inventory. (FIAT Microfilm reel GG-61, Frames 1-346). 1946. 346 f. Price: Microfilm-$4.25 - Enlargement Print-$35.00
This reel contains plant data for the above mentioned plant obtained by the British Section of the Control Commission for Germany. Included are a short description of the firm, an inventory of fixed assets, an index key plan of the plant and abbreviations pertinent thereto.

PB L 74367. VDM HALBZEUGWERKE G.M.B.H., WERDOHL-EVEKING. Reparations inventory. (FIAT Microfilm reel GG-65, Frames 1-97). 1946. 97 f. Price: Microfilm-$1.75 - Enlargement Print-$10.00
This reel contains plant data for the above mentioned plant obtained by the British Section of the Control Commission for Germany. Included are a short description of the firm, an inventory of fixed assets, an index key plan of the plant and abbreviations pertinent thereto.

PB L 74397. VEREINIGTE ALUMINUMWERKE, GREVENBROICH. Reparations inventory. (FIAT Microfilm reel GG-59, Frames 1-68). 1946. 68 f. Price: Microfilm-$1.50 - Enlargement Print-$7.00
This reel contains plant data for the above mentioned plant obtained by the British Section of the Control Commission for Germany. Included are a short description of the firm, an inventory of fixed assets, an index key plan of the plant and abbreviations pertinent thereto.

PB L 74325. VEREINIGTE DEUTSCHE METALLWERKE, WERDEHL-BÄRENSCHEIDT. Reparations inventory. (FIAT Microfilm reel GG 90, Frames 1-153). 1946. 153 f. Price: Microfilm-$2.50 - Enlargement print-$15.50
This reel contains plant data for the above-mentioned plant obtained by the British Section of the Control Commission for Germany. Included are a short description of the firm, an inventory of fixed assets, an index key plan of the plant and abbreviations pertinent thereto.

PB L 74354. VEREINIGTE LEICHTMETALLWERKE G.M.B.H., HANNOVER LAATZEN. Reparations inventory. (FIAT Microfilm Reel GG 94, Frames 1-341). 1946. 341 f. Price: Microfilm-$4.25 - Enlargement Print-$34.50
This reel contains plant data for the above-mentioned plant obtained by the British Section of the Control Commission for Germany. Included are a short description of the firm, an inventory of fixed assets, an index key plan of the plant and abbreviations pertinent thereto.

PB L 80853. VOLDRICH, C. B. Cold cracking in the heat-affected zone. Mar 1947. 17 p. Price: Microfilm-$1.00 - Photostat-$2.00
The nature of cold cracking in the heat-affected base metal of metal-arc welds in steels, and the influence of two factors—steel properties and hydrogen from welding electrodes—on the incidence of cold cracking, are discussed. The general concept of the behavior of hydrogen in metal-arc welds is presented along with data on the hydrogen-generating characteristics of various types of electrodes. Data are also given on the influence on cracking of chemical composition and the distribution of carbon and alloying elements in steel. The application of this knowledge for processing or

heat treating steel to decrease or eliminate cracking tendency, without a reduction in the carbon and alloy content, is discussed. Techniques for obtaining a reliable indication of the comparative crack sensitivity of steels are described. Illustrations, charts and graphs and bibliography are included. This is a reprint from The Welding Journal Research Supplement, March 1947.

PB L 74336. WESTFÄLISCHE KUPFER & MESSINGWERKE, LÜDENSCHEIDT. Reparations inventory. (FIAT Microfilm reel 00 83, Frames 1-61). 1946. 61 f. Price: Microfilm-$1.50 - Enlargement Print-$6.50
This reel contains plant data for the above-mentioned plant obtained by the British Section of the Control Commission for Germany. Included are a short description of the firm, an inventory of fixed assets, an index key plan of the plant and abbreviations pertinent thereto.

PB L 74346. WILBERTZ & SCHNEIDER, DÜSSELDORF. Reparations inventory. (FIAT Microfilm reel 00-93, Frames 1-10). 1946. 10 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
This reel contains plant data for the above-mentioned plant obtained by the British Section of the Control Commission for Germany. Included are a short description of the firm, an inventory of fixed assets, an index key plan of the plant and abbreviations pertinent thereto.

PB L 74342. ZINNWERKE G.M.B.H., HAMBURG-WILHELMSBURG. Reparations inventory. (FIAT Microfilm Reel 00 72, Frames 1-248). 1946. 248 f. Price: Microfilm-$3.25 - Enlargement Print-$25.00
This reel contains plant data for the above-mentioned plant obtained by the British Section of the Control Commission for Germany. Included are a short description of the firm, an inventory of fixed assets, an index key plan of the plant and abbreviations pertinent thereto.

MINERALS AND MINERAL PRODUCTS

*PB L 81629. ARNOLD, MACK A. and FORMIGLI, OTTO L. Precast concrete products industry in Germany. (FIAT Final Rept 1123). Jun 1947. 72 p. Price: Mimeo-$2.00
This report reviews the German precast concrete industry and the progress made in the design and use of precast concrete units in German building. German precast concrete floor systems and precast concrete joists are presented in detail. Various types of lightweight concretes are reviewed and summarised. Numerous miscellaneous precast concrete items of unusual interest are presented and reviewed. Bibliography, drawings and tables are included.

PB L 81056. BLACKBURN, A. REIF and others. Ceramic materials for application in the design of jet propelled devices. (Ohio State Univ Res Foundation Memo Rept 23). May 1947. 15 p. Price: Microfilm-$1.00 - Photostat-$1.00
This report describes the development and use of equipment for heat processing cerametallic bodies. A photograph and furnace drawings are presented in the Appendix as well as a temperature correction chart for optical pyrometer readings taken through glass.

*PB L 78290. BLOOMFIELD, GERD M. Technical and scientific developments related to the asbestos industry in Germany. (FIAT Final Rept 1070). Mar 1947. 48 p. Price: Mimeo-$1.25
This report reveals some processes and methods applied by the German asbestos industry which were considered sufficiently valuable to be reported. A detailed plan is given on preparing and automatic batching and mixing of asbestos spinning stock. Cards for producing yarn from short asbestos fibers are described as are some auxiliary machines and installations. A report is given on the subject of elimination of dust for the prevention of silicosis (asbestosis) and findings by research workers in the medical field are submitted. The results of the attempted synthesis of asbestos are presented, based on already published and hitherto unpublished papers and on personal interviews with people concerned. Five appendices are included, containing a list of German personnel interviewed; a bibliography; a report on synthetic asbestos by Prof. Wilhelm Eitel (German text); a report on production of synthetic fiber by Dr. Rudolf Leutz (German text); and a list of photographs, drawings and diagrams.

*PB L 81541. GREEN, A. T. and others. Manufacture of refractories. Report of interrogation of Eric Schroth of Didier Werke G.m.b.H., Niederdollendorf. (BIOS Final Rept 1364, Item 21, 31; Interrogation Rept 474). n. d. 32 p. Price: Microfilm-$1.75 - Photostat-$4.00
This report consists of a reproduction of a questionnaire together with the answers given verbally by Herr Eric Schroth to each question. 229 questions and answers are given.

PB L 79353. JONES, F. E. Weathering tests on asbestos-cement roofing materials. (Gt Brit Dept of Scientific and Industrial Res Building Res Tech Paper 29; British Commonwealth Scientific Office Rept 121-B10-29). 1947. 38 p. Price: Microfilm-$1.00 - Photostat-$3.00
The investigations described in this report were carried out between 1934 and 1938 in cooperation with a group of manufacturers with the object of obtaining data on which a new British Standard Specification could be based. Tables are included.

*PB L 77671. MERKER, LEON. The synthetic stone industry of Germany. (FIAT Final Rept 1001). Mar 1947. 28 p. Price: Mimeo-$0.75
This report reviews the manufacture of synthetic stones in Germany and developments in this field during the war years. The most significant of the advances were the development of a process for making jewel bearings from hardened synthetic spinel. The report also contains plant data concerning the manufacture of spinel and detailed formulae for the manufacture of synthetic spinels of various colors. To the present time synthetic spinels have never been manufactured in the United States. Five appendixes are included containing such information as: List of German personnel interviewed, targets visited, a bibliography, and drawings showing Verneuil Apparatus, furnace used by Wiedes Carbidwerk, and furnace used by I. G. Farbenindustrie A. G.

*PB L 79595. SCHIEL, FRIEDRICH. Determining the shape of aggregate grains by sifting. (FIAT Final Rept 1112). May 1947. 19 p. Price: Mimeo-$0.50
This report, which includes a translation, describes a new test method for evaluating the quality of the shape of the particles in an aggregate sample by means of sieve analyses. An automatic method called the "Kornfallprüfung" (grain-dropping test) was worked out by the author and published in "Forschungsarbeiten aus dem Strassenwesen", Band 29, 1941. Sifting analyses are tabulated and a sifting curve is given. Appendix I contains a bibliography, and Appendix II the original report in the German language.

PB L 78704. SUPREME COMMANDER FOR THE ALLIED POWERS. NATURAL RESOURCES SECTION. Fluorspar resources of Japan. (Rept 75). Apr 1947. 50 p. Price: Microfilm-$1.00 - Photostat-$4.00
This report stresses economic importance, describes geological features and lists individual mines. An annotated bibliography is included. Tables, flow sheets, and nation-wide figures on production are included.

ORDNANCE AND ACCESSORIES

*PB L 80613. BEAN, C. M. Report on the interrogation of Dr. Erich Scholz, an expert on electric and percussion caps, formerly employed by D.W.M. (Grötzingen). (BIOS Final Rept 515, Item 2). May 1946. 9 p. Price: Microfilm-$1.00 - Photostat-$1.00
Dr. Scholz was interrogated June 13, 14, and 15th, 1945 and information obtained is presented in this report. The subjects discussed were: Percussion caps for small arms and electric caps for small arms. Appendix I is a discussion on diamtriazolecarboxylic acid (D-Satz) with composition 73 and 75 given.

PB L 80731. COHEN, A. R. and STILLER, B. A tourmaline crystal gage for underwater explosion pressure. (David W. Taylor Model Basin Rept R-157). Dec 1943. 7 p. Price: Microfilm-$1.00 - Photostat-$1.00
A rubber-coated piezoelectric tourmaline crystal gage for the measurement of underwater pressures has been developed, and the various steps in making up the gage are described in detail. A distinctive feature is the use of a wax-filled, copper, coaxial cable for the underwater lead to the gage, which is quite free from cable signal. The first of the gages thus produced has been subjected to approximately 75 explosions, varying from 22 grams to 250 grams of explosive charge. It still meets the given requirements. Sketches and illustrations are included.

PB L 81032. HERZFELD, K. F. Stresses in shells due to band pressure. Final report. (NDRC Rept A-445; OSRD Rept 6516). Dec 1945. 88 p. Price: Microfilm-$2.00 - Photostat-$6.00
Approximate formulas for the stresses and strains in a cylindrical tube subjected to a radial pressure over a band of given length are developed. For a particular case, where the pressure is applied to the outer surface (HE shell), these are compared with an exact calculation; for other cases where the pressure is applied on the inner surface (gun), the approximate formulas are compared with experiment. Push tests were made in 37 mm proof shot and HE shells and 75 mm AP shot and HE shells, with bands of different diameters and design. This report, prepared at the Catholic University of America, includes data tables, graphs, and photographs.

PB L 78624. KANSTEIN, SIMON (tr). Telescopic sight ZFR3a. (AAF T-2 Translation 787). Feb 1947. 12 p. Price: Microfilm-$1.00 - Photostat-$1.00
This report gives a description of a combination reflector-telescope sight for the aiming of fixed aircraft guns. Instructions for installation, calibration, maintenance and operational use are included.

PB L 80730. SAUNDERS, H. E. and CAMPBELL, D. C. A study of the surface effects caused by an underwater explosion: Part I. 1750 pounds of torpex near the bottom in 40 feet of water. (David W. Taylor Model Basin Rept R-252). Jul 1944. 16 p. Price: Microfilm-$1.00 - Photostat-$2.00
A charge of 1750 pounds of Torpex was fired one foot off the mud bottom of the Patuxent River in 40 feet of water. A time history of the dome and the plume are given as obtained from high-speed motion-picture records. Oscillographic pressure measurements give related times of detonation and gas-globe collapse. This study is unique in that it utilizes motion-picture records taken at a rate of 1600 frames per second, yielding data over much shorter intervals than the records of any other large-scale explosions for which published data can be found. Photographs, motion pictures of the explosion, oscillograph record and charts are included.

*PB L 78271. WALTER, HANS and others. German developments in high explosives. (FIAT Final Rept 1035). Apr 1947. 40 p. Price: Mimeo-$1.00
This report reviews the latest processes developed in Germany for manufacturing new high explosives. It presents some details of pilot plants and plants for large scale production. The use of the new high explosives for demolition and for gun and rocket propellants is described. The principal explosives discussed are Myrol, based on methyl nitrate; MAN-salt, based on monomethylammonium nitrate; and TETRA-salt, based on tetramethylammoniumnitrate. Myrol in particular has certain outstanding properties which may make it valuable as a future explosive. The pilot plant process of producing Formit is also given. This was the least important of the high explosives developed so was not developed to larger scale production. Five appendices are included, they contain: A list of personnel of Myrol team and a list of German personnel referred to in the report; a list of patents and applications filed in Germany; a bibliography; a summary of properties of principal explosives; and a list of eight drawings.

PERSONNEL APTITUDE TESTING AND JOB TRAINING

PB L 74055. SIEMENS SCHUCKERTWERKE, A. G., BERLIN. Efficiency increasing methods. (FIAT Microfilm Reel B-235, Frames 1626-2494). 1927-1944. 869 f. Price: Microfilm-$6.00 - enlargement print-$87.00
This reel was prepared by FIAT investigators and deals with Siemens-Schukert's internal organization including such items as suggestions by their own personnel. The film also contains directives, decrees, lectures, educational programs, photographs of exhibitions, VDI publications of the "Refa" treatises by Prof. Friedrich, and a listing of Siemens-Schukert publications. Individual items are listed below and will be available as enlargement prints. Please include PB and frame numbers when ordering individual items. In German.

Frames	Title	Price
1626-1730 PB L 74055	Progressive exhibition of 1940. "Better and cheaper every day." In German.	$11.50
1731-1764 PB L 74055	Retraining in the iron and metal processing industry. By E. Pflaume. In German.	3.50
1765-1767 PB L 74055	Training in observation as a foundation for a technical education. By E. Pflaume. In German.	1.50
1768-1769 PB L 74055	Experiences of a planned education for workers. By E. Pflaume. In German.	1.50
1770-1771 PB L 74055	Instructing installers of rotary automats. By E. Pflaume. In German.	1.50
1772-1773 PB L 74055	Is there a scarcity of specialized workers in the metal industry? A proposal for eliminating this problem. By H. Benkert and E. Pflaume. In German.	1.50
1774-1776 PB L 74055	Employment of trained labor. By E. Pflaume. In German.	1.50
1777-1778 PB L 74055	Planned finding of mistakes. By E. Pflaume. In German.	1.50
1779-1780 PB L 74055	Retraining. By E. Pflaume. In German.	1.50
1781-1782 PB L 74055	Women workers in the plant. By E. Pflaume. In German.	1.50

Personnel Aptitude Testing (contd)

1782-1785 PB L 74055 — Woman and the factory. By E. Pflaume. In German. 1.50

1786-1787 PB L 74055 — Short term training of auxiliary female designers. By E. Pflaume. In German. 1.50

1788-1791 PB L 74055 — Retraining of auxiliary female designers. By E. Pflaume. In German. 1.50

1792-1848 PB L 74055 — Internal propagation and proposals for the development of improvements initiated by Siemens-Schuckert personnel. In German. 6.00

1849-1870 PB L 74055 — Vocational training plan for teaching toolmakers according to a 1939 decree, by the "Reichswirtschafts-minister." In German. 2.50

1871-1872 PB L 74055 — Vocational aptitude requirements for teaching toolmakers according to a 1939 decree. by the "Reichswirtschafts minister." In German. 1.50

1873-1879 PB L 74055 — Decrees of 1936/41 by the "Reichwirtschafts minister" on requirements for mechanics, lathe operators, toolmakers, electricians for power plants, and machinists. In German. 1.50

1880-1887 PB L 74055 — Introduction in the duties of the foreman and installer. By the "Kabel-und Leitungswerke Neustadt-Coburg A. G." In German. 1.50

1888-1893 PB L 74055 — Directives for assisting newly arrived personnel. By Siemens-Schuckert, Nürnberg. In German. 1.50

1894-1904 PB L 74055 — Work organization in the office. By Hermann Böhrs. Automatization as a commonproblem by Willy Meier. In German. 1.50

1905-1954 PB L 74055 — Women in the industrial plant. By E. Pflaume. In German. 5.00

1955-2029 PB L 74055 — Basis for efficiency training. By Adolf Friedrich. In German. 7.50

2030-2039 PB L 74055 — Piece-, performance- and control-wages. By Erich Kupke. In German. 1.50

2040-2041 PB L 74055 — Drawings of manufactured parts. In German. 1.50

2042-2093 PB L 74055 — Estimating efficiency. By Erich Kupke. In German. 5.50

2094-2135 PB L 74055 — "Reichsausschuss für Arbeitsstudien" (Refa) and increase of efficiency. Lectures at the annual Refa meeting at Gotha 1939. By K. Hegner, and others. 4.50

2136-2145 PB L 74055 — "----- and keep it up daily!" Man and plant progress. By Hanns Benkert. In German. 1.50

2146-2151 PB L 74055 — Investigation of determining optimal manual timing for industrial manufacturing. By H. Klein. In German. 1.50

2152-2170 PB L 74055 — Courses for foremen. By Bramesfeld. In German. 2.00

2171-2180 PB L 74055 — Control of working procedures. By Erich Kupke. In German. 1.50

2181-2194 PB L 74055 — Directives for proposing improvements by Siemens-Schuckertwerke, A. G. In German. 1.50

2195-2235 PB L 74055 — Manual for operational studies. By E. Bramesfeld and O. Graf. In German. 4.50

2236-2245 PB L 74055 — Instructions for training foremen. By Siemens Schuckertwerke, A. G. In German. 1.50

2246-2255 PB L 74055 — See frames 2171-2180.

2256-2432 PB L 74055 — Directives for tests. Work analyses and results. By Prof. Adolf Friedrich from the "Technische Hochschule Karlsruhe." In German. 18.00

2433-2494 PB L 74055 — Educational and continuation works of the Siemens Schuckertwerke, A. G. (Titles and short summary). In German. 6.50

PHOTOGRAPHIC AND OPTICAL GOODS (INCLUDING PHOTOGRAPHIC PROCESSING)

*PB L 79637. BERG, W. F. Interrogation of Dr. L. Meichsner, Jan 27 and Feb 26, 1947. (Experiments on silver halide crystals in the Zeiss Ikon Laboratories, Dresden). (BIOS Interrogation Rept 457). Apr 1947. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00

Dr. L. Meichsner was understood to have been working on the photographic process at low temperature but as he has been at the Zeiss laboratories for but a short time the information obtained and recorded in this report is somewhat vague.

*PB L 81274. KECK, PAUL H. Color reproduction by color photography. (FIAT Final Rept 977). May 1947. 67 p. Price: Mimeo-$1.75

The report discusses the quality of color reproduction by a photographic process from a physical point of view. In the first part the colorimetric basis for color specification is given and the theoretically expected deviations in chromaticity and luminances are described for certain defined assumptions and using an additive color forming process. The second part of the report reviews a great number of actual data measured on Agfacolor material. The average deviations are about twice as large as theoretically expected under favorable conditions. Appendix I includes a bibliography and Appendix II contains thirty figures.

PB L 78595. KING, PETER and LOCKHART, L. Reflection-reducing coatings for optical surfaces. (Nav Res Lab Rept P-2257). Mar 1944. 28 p. Price: Microfilm-$1.00 - Photostat-$2.00

This report covers a study of the two-coat reflection-reducing film developed by Moulton and Tillyer of the American Optical Company. The study covers particularly the method of formation of these films and their properties. A bibliography, tables and plotted graphs are included.

PB L 78596. KING, PETER. Reflection reducing coatings for transparent plastic surfaces. (Nav Res Lab Rept P-1987). Jan 1943. 13 p. Price: Microfilm-$1.00 - Photostat-$1.00

This report describes the procedure of an investigation to find a suitable means of applying reflection reducing coatings to transparent plastic surfaces on aircrafts. The application was to be of such simplicity that the coatings could be applied to airplanes serving in the fleet. The method should require no special apparatus and preferably should be done with equipment found at all bases. Photographs and tables are included.

PB L 73055. LEITZ, ERNST, G. M. B. H., WETZLER, GERMANY. Drawings and parts lists for loupes, mechanical stages and accessories. (FIAT Microfilm Reel F 30, Frames 7506-8460). 1919-1945. 955f. Price: Microfilm-$6.00 - enlargement print-$95.50

This FIAT Microfilm reel consists of parts lists and drawings for loupes and mechanical stages with accessories. Individual items are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
7506-7512 PB L 73055	Illumination microscope. Parts list and drawings. 1933. In German.	$1.50
7513-7517 7538-7557 7662-7668 PB L 73055	Measuring loupes, enlargement from 5 x to 12,5 x. Parts lists and drawings. 1933-1937. In German.	3.50
7518-7537 7640-7656 PB L 73055	Loupe stand will illuminating mirror. Parts lists and drawings. 1934. In German.	4.00
7558-7639 PB L 73055	Jeweler's loupe. Parts list, drawings and photograph. 1935. In German.	8.50
7657-7661 PB L 73055	Reading loupe with vernier. Parts list and drawings. 1936. In German.	1.50
7669-7760 PB L 73055	Pocket loupes, enlargement from 2,5 x to 7,5 x. Parts lists and drawings. 1936-1938. In German.	9.50
7761-7762 PB L 73055	Loupe handle. Drawings. 1945. In German.	1.50
7763-7766 PB L 73055	Microtome knife. Drawings. 1930. In German.	1.50
7767-7997 8034-8093 8159-8244 8309-8337 8372-8411 PB L 73055	Mechanical stages models Edinger, AA, BB, 139, 140 and 1 b including accessories. Parts lists and drawings. 1919-1929. In German.	45.00
7998-8013 PB L 73055	Fine adjustment for demonstration microscopes. Parts list and drawings. 1923. In German.	2.00
8014-8033 PB L 73055	Revolving nosepieces, in two, three and four parts. Parts lists and drawings. 1926. In German.	2.00
8094-8158 PB L 73055	Small monochromator. Parts list and drawings. 1921. In German.	6.50
8245-8286 PB L 73055	Illumination device for condensers. Parts list and drawings. 1923. In German.	4.00
8287-8308 PB L 73055	Shutter with conical diaphragm for wide tubes with Summar objective without an ocular. Parts list and drawings. 1927. In German.	2.50
8338-8351 PB L 73055	Adjustable semidiaphragm for attachment to condensers. Parts lists and drawings. 1929. In German.	1.50
8352-8362 PB L 73055	Diagonal diaphragm for condensers. Parts list and drawings. 1935. In German.	1.50
8363-8371 PB L 73055	Centering diagonal diaphragm for condensers. Parts list and drawings. 1929. In German.	1.50
8412-8460 PB L 73055	Micromanipulator. Parts list and drawings. 1930. In German.	5.00

PB L 73063. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Drawings and parts lists for microscopes and accessories. (FIAT Microfilm Reel F 38, Frames 4516-5483). 1936-1946. 968 f. Price: Microfilm-$6.00 - enlargement print-$97.00

This FIAT microfilm reel consists of parts lists and drawings for microscopes and miscellaneous microscope accessories and cameras, especially for Panphot equipment. Individual items are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfiln form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
4516-4519 PB L 73063	Diaphot. Drawings. (Parts lists in reel F 37, PB 73062) 1936. In German.	$1.50
4520-4523 PB L 73063	Swinging stage with variable illumination for Panphot equipment. Parts list and drawings. 1938. In German.	1.50
4524-4525 PB L 73063	Light box for Epi-Dia comparison projector. Drawings. 1937. In German.	1.50
4526-4541 PB L 73063	Work bench for Panphot equipment. Parts list and drawings. 1939. In German.	2.00
4542-4553 4617-4618 PB L 73063	Holder for exposure meters Tempophot and Tempiphot for Panphot equipment. Parts lists and drawings. 1937. In German.	1.50
4554-4568 PB L 73063	Tube for Panphot equipment. Drawings. 1941. In German.	1.50
4569-4579 PB L 73063	Leica and Mifilmca for Panphot equipment. Drawings. 1945. In German.	1.50
4580-4593 PB L 73063	Condenser illumination for Panphot equipment. Drawings. 1938. In German.	1.50
4594-4597 PB L 73063	Lamameter for Panphot equipment. Drawings. 1937. In German.	1.50
4598-4612 PB L 73063	Blind eyepiece for microscopes. Drawings. 1938. In German.	1.50
4613-4616 PB L 73063	Paillard Bolex miniature film camera. Drawings. 1938. In German.	1.50
4619-4633 PB L 73063	Leica reflex arrangement for Panphot equipment. Drawings. 1938. In German.	1.50
4634-4636 5360-5498 PB L 73063	Columnar stand for stereoscopic exposures. Parts list and drawings. 1938. In German.	4.50
4637-4643 PB L 73063	Arrangement for reproduction exposures with camera for Panphot equipment. Drawings. 1936. In German.	1.50
4644-4650 PB L 73063	Zeiss Movikon miniature film camera for Panphot equipment. Parts list and drawings. 1937. In German.	1.50
4651-4879 4974-4997 PB L 73063	Chatelier microscope for Panphot equipment. Drawings, photograph and parts lists. Parts lists may not reproduce well. 1937. In German.	25.50
4880-4973 5258-5271 PB L 73063	Mono-Dino tube with polarizer for Panphot equipment. Drawings. 1941. In German.	11.00
4998-5003 PB L 73063	Swinging stage. Drawings. 1941. In German.	1.50

5004-5038 PB L 73063 — Focusing arrangement for an auxiliary camera. Drawings. 1941. In German. 3.50

5039-5135 PB L 73063 — Photographic attachments, ("Stutzen") 1/3 x, 1/2 x, 1/1 x, 2 x, and 4 1/2 x 6. Drawings. 1941. In German. 10.00

5136-5183 PB L 73063 — Small instantaneous shutter, 108 mm diameter. Drawings. 1938. In German. 5.00

5184-5197 PB L 73063 — Large instantaneous shutter, 125 mm diameter. Drawings. 1938. In German. 1.50

5198-5204 PB L 73063 — Siemens motion-picture cameras model "D" and "P" for Panphot equipment. Drawings. 1938. In German. 1.50

5205-5241 PB L 73063 — Micrographic and micrographic drawing apparatus for Panphot equipment. Drawings. 1938. In German. 4.00

5242-5244 PB L 73063 — Lightproof projection chamber for Panphot equipment. Drawings. 1938. In German. 1.50

5245-5257 PB L 73063 — Tube testing equipment for Panphot. Drawings. 1939. In German. 1.50

5272-5275 PB L 73063 — 100-watt lamp for Panphot equipment. Drawings. 1939. In German. 1.50

5276-5316 PB L 73063 — Polarization tube for Panphot equipment. Drawings. 1941. In German. 4.50

5317-5359 PB L 73063 — Measuring microscope with focusing screen. Drawings. 1941. In German. 4.50

5398-5415 PB L 73063 — Microphotographic stand for Ortholux microscope. Drawings. 1940. In German. 2.00

5416-5483 PB L 73063 — "Macro-equipment." Drawings. 1940. In German. 7.00

PB L 73059. LEITZ, ERNST, G. M. B. H., WETZLAR, GERMANY. Drawings and parts lists for microscopes and their accessories. (FIAT Microfilm Reel F 34, Frames 1050-2017). 1927-1941. 968 f. Price: Microfilm-$6.00 - enlargement print-$97.00

This FIAT microfilm reel consists of drawings and parts lists for several types of microscopes for special uses and their accessories. Individual items are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
1050-1065 PB L 73059	Disk chuck for lacquer rings. Drawings. 1938. In German.	$2.00
1066-1068 PB L 73059	Case for an objective and for cedar oil. Drawings. 1939. In German.	1.50
1069-1084 PB L 73059	Protective cap for tubes. Drawings. 1941. In German.	2.00
1085-1098 PB L 73059	Handle for microscope stand cabinets. Drawings. 1929. In German.	1.50
1099-1109 PB L 73059	Tube holder for a cabinet. Drawings. 1929. In German.	1.50
1110-1111 PB L 73059	Form gages for cabinet lock and key. Drawings. 1927. In German.	1.50
1112-1114 PB L 73059	Bell jar for microscope 20278. Drawings. 1928. In German.	1.50
1115-1116 PB L 73059	Storage frames for oculars and objectives. Drawings. 1938. In German.	1.50
1117-1128 PB L 73059	Transport case for Ortholux microscopes. Drawings. 1939. In German.	1.50
1129-1187 PB L 73059	Cabinet for W-M microscopes. Drawings. 1939. In German.	6.00
1188-1202 PB L 73059	Cabinet for microscope stand S. Drawings. 1939. In German.	1.50
1203-1226 PB L 73059	Cabinet for H.S.P. microscope. Drawings. 1941. In German.	2.50
1227-1232 PB L 73059	Measuring tube with ocular according to Ehrlich. Photograph and drawings. 1934. In German.	1.50
1233-1316 PB L 73059	Microscope for the examination of bearing jewels. Parts list and drawings. 1939. (Some frames will not reproduce well.) In German.	8.50
1317-1332 PB L 73059	Stereoscopic binocular microscope for the examination of razor blades. Photograph, parts list and drawings. 1935. In German.	2.00
1333-1346 PB L 73059	Handle for all carrying cases. Parts list and drawings. 1931. In German.	1.50
1347-1378 PB L 73059	Measuring microscope 1x. Parts list and drawings. 1936. In German.	3.50
1379-1389 PB L 73059	Loupe-type reading microscope. 20x, 30x and 40 x. Parts list and drawings. 1934. In German.	1.50
1400 PB L 73059	Illumination device for thread sections. Drawing. 1934. In German.	1.50
1401-1668 PB L 73059	Ultramicroscope with slit condenser. Drawings and parts lists. 1927-1935. In German.	27.00
1669-1672 PB L 73059	Elbow microscope, 60°, with image erction. Drawings. 1928. In German.	1.50
1673-1678 PB L 73059	Special microscope for physico-technical workshops. Parts list and drawings. 1929. In German.	1.50
1679-1687 PB L 73059	Reading microscope for aircraft dashboard instruments. Parts list and drawings. 1934. In German.	1.50
1688-1691 PB L 73059	Special reading microscope, 30x. Parts list and drawings. 1933. In German.	1.50
1692-1711 PB L 73059	Control microscope for gage boring machines. Parts list and drawings. 1939. (Some frames will not reproduce well.) In German.	2.00
1712-1854 PB L 73059	Measuring microscope with intermediate image. Parts list and drawings. 1939. (Some frames will not reproduce well.) In German.	14.50
1855-1871 PB L 73059	Focusing elbow microscope, 90°. Parts list and drawings. 1934. In German.	2.00

1872-1894 PB L 73059	Simple reading microscope. Parts list and drawings. 1934. In German.	2.50
1896-1902 PB L 73059	Reading microscope with a light stand. Parts list and drawings. 1932. In German.	1.50
1903-1912 PB L 73059	Special microscope for spinning nozzle drilling machines. Parts list and drawings. 1934. In German.	1.50
1913-1925 PB L 73059	Special elbow microscope for razor blade grinding machines. Parts list and drawings. 1934. In German.	1.50
1926-1962 PB L 73059	Microscope for cut planing machines. Parts list and drawings. 1934. In German.	4.00
1963-1982 PB L 73059	Elbow microscope, 90°. Parts list and drawings. 1934. In German.	2.00
1983-1986 PB L 73059	Special microscope with a loupe ocular. Parts list and drawings. 1934. In German.	1.50
1987-2017 PB L 73059	Measuring microscope for autocollimation. Parts list and drawings. 1934. (Some frames will not reproduce well.) In German.	2.50

PB L 73049 LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Drawings and parts lists for optical instruments. (FIAT Microfilm Reel F-24, Frames 1986-2896) 1923-1945. 911 f. Price: Microfilm - $6.00 - Enlargement prints-$91.50

This FIAT microfilm reel consists of drawings of optical instruments and accessories, and respective parts lists as listed below. Individual items will be available as enlargement prints only; the entire reel may be purchased as microfilm for $6.00. Please include PB and frame numbers when ordering individual items from the microfilm reel. In German.

Frames	Titles	Price
1986-1997 2593-2631 PB L 73049	Stereoscopic tubus with 45° eyepiece and accessories. Drawings and parts lists. 1940. In German.	$5.50
1998-1999 2099-2107 PB L 73049	Microscope stands G., B. and S. Drawings. 1941-1945. In German.	1.50
2000-2056 PB L 73049	Binocular microscope for the examination of cultures in nutritive media, Model 1939. Drawings, photographs and parts lists. 1941. In German.	6.00
2057-2061 2064-2082 PB L 73049	Microscope for the examination of ores. Parts lists and drawings. 1941. In German.	2.50
2062-2063 PB L 73049	Small stand with low-voltage lamp. Parts lists. 1940. In German.	1.50
2083-2098 PB L 73049	Traveling microscope. Drawings. 1942. In German.	2.00
2108-2294 2412-2471 2545-2588 2731-2739 2782-2801 2837-2853 PB L 73049	Huyghens' eyepieces from 2x to 12x. Drawings and parts lists. 1923-1946. In German.	34.00
2295-2313 PB L 73049	Eyepieces for orthoscopes f = 12 mm and f = 15 mm. Drawings and parts lists. 1920. In German.	2.00
2314-2411 2822-2833	Periplan eyepieces, from 2 x to 25 x. Parts lists and drawings.	
2854-2861 PB L 73049	1929-1941. In German.	12.00
2472-2503 2589-2592 2802-2821 PB L 73049	Projection eyepieces f = 42 mm and f from 150 to 250 mm. Parts lists and drawings. 1926-1941. In German.	6.00
2504-2528 PB L 73049	Eyepiece for an apertometer. Drawings and parts lists. 1929. In German.	2.50
2529-2544 PB L 73049	Eyepiece for autocollimation, 12.5 x. Parts lists and drawings. 1935. In German.	2.00
2632-2642 2865-2870 2877-2883 PB L 73049	Micrometric eyepieces, 20 x and Ramsden's micrometric eyepiece f = 15 mm. 1933-1938. In German.	2.50
2643-2691 2740-2781 2862-2864 2884-2896 PB L 73049	Comparison eyepieces: Ramden's, diapositive 10x and 18x. Parts lists and drawings. 1937. In German.	11.00
2692-2730 PB L 73049	Double ocular Huyghens and Periplan, from 4 x to 8 x. Parts lists. 1924. In German.	4.00
2834-2836 2871-2876 PB L 73049	Simple indicator eyepieces, 4 x to 10 x. Parts lists and drawings. 1938. In German.	1.50

PB L 73060. LEITZ, ERNST, G. M. B. H., WETZLAR, GERMANY. Drawings and parts lists for special microscopes and telescopes with accessories. (FIAT Microfilm Reel F 35, Frames 2018-2777). 1926-1938. 761 f. Price: Microfilm-$6.00 - Enlargement print-$76.50

This FIAT microfilm reel consists of drawings and parts lists for microscopes and telescopes for special uses, including some accessories. Individual items are listed below and will be available as enlargement prints only; the entire reel may be purchased for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
2018-2030 PB L 73060	Measuring microscope for autocollimation. Drawings. 1931. In German.	$1.50
2031-2075 PB L 73060	Focusing telescope loupes, 4 x and with cross hairs. Parts lists and drawings. 1934. In German.	5.00
2076-2160 PB L 73060	Telescopic loupe with a goniometer. Parts list and drawings. 1936. In German.	9.50
2161-2173 PB L 73060	Telescope, 10 x, with image reversion. Parts list and drawings. 1934. In German.	1.50
2174-2191 PB L 73060	Telescope, 3 x, for autocollimation. Parts list and drawings. 1934. In German.	2.00
2192-2208 PB L 73060	Focusing microscope, 22 x. Parts list and drawings. 1935. In German.	2.00
2209-2244 PB L 73060	Focusing telescope, 27 x. Parts list and drawings. 1935. In German.	4.00
2245-2256 PB L 73060	Monocular prism telescope, 8 x 24. Parts list and drawings. 1935. In German.	1.50

2257-2262 PB L 73060	Focusing microscope for gage boring machines. Parts list and drawings. 1935. In German.	1.50
2263 PB L 73060	Focusing microscope. 32 x. Drawing. 1935. In German.	1.50
2264-2279 PB L 73060	Reading microscopes, 30 x and with micrometric ocular and a reflecting mirror. Parts lists and drawings. 1935. In German.	4.00
2280-2308 PB L 73060	Telescope, 12 x, for autocollimation. Parts list and drawings. 1935. In German.	3.00
2309-2321 PB L 73060	Measuring microscope, tube length 170 mm. Parts list and drawings. 1925. In German.	2.50
2322-2405 PB L 73060	Measuring microscope for profile grinding machines. Parts list and drawings. 1936. In German.	8.50
2406-2433 PB L 73060	Special workshop microscope. Parts list and drawings. 1936. In German.	3.00
2434-2441 PB L 73060	Special microscope. Drawings. 1936. In German.	1.50
2442-2453 PB L 73060	Equipment for counting germs in cultures. Parts list and drawings. 1936. In German.	1.50
2454-2476 PB L 73060	Microscope for type soldering equipment. Parts list and drawings. 1936. In German.	2.50
2477-2477a PB L 73060	Microscope for measuring the wall thickness of glass vessels. Drawings.1937. In German.	1.50
2478 PB L 73060	Telescope, 10 x. Drawing. 1936. In German.	1.50
2479-2513 PB L 73060	Telescope for autocollimation, f = 600 mm, 24 x. Parts list and drawings. 1937. In German.	3.50
2514-2517 PB L 73060	Telescope for autocollimation, 30 x. Parts list and drawings.1937. In German.	1.50
2518-2535 PB L 73060.	Measuring microscope MY. Drawings. 1938. In German.	2.00
2536 PB L 73060	Reading microscope, 5 x to 3 x. Drawing. 1938. In German.	1.50
2537-2583 PB L 73060	Microscope for sorting bearing jewels. Drawings. 1938. In German.	5.00
2584-2597 PB L 73060	Phosphorescent microscope. Photographs, parts list and drawings. 1939. In German.	1.50
2598-2605 PB L 73060	Drawings and a list of available cassettes. 1931. (Will not reproduce well.) In German.	1.50
2606-2658 PB L 73060	Microphotographic apparatus, Model II. Parts list and drawings. 1928. In German.	5.50
2659-2777 PB L 73060	Mineralogical microscope according to Edinger. Parts list and drawings. 1926. In German.	12.00

PB L 73064. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. rawings for a Rockwell hardness testing apparatus and arts of cameras and microscopes. (FIAT Microfilm Reel F 39, Frames 5484-5571). 1940-1943. 88 f.
Price: Microfilm-$1.75 - enlargement print-$9.00
This FIAT microfilm reel consists of drawings for a Rockwell hardness testing apparatus, camera and microscope parts and accessories. Individual items are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $1.75. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
5484-5507 PB L 73064	Bellows camera for Leica size pictures. Drawings. 1940. In German.	$2.50
5508 PB L 73064	Swinging stage for Aristophot. Drawing (Part) 1941. In German.	1.50
5509-5514 PB L 73064	Projection mirror. Drawings. 1940. In German.	1.50
5515-5519 PB L 73064	Holder for motion-picture camera Filmo. Drawings. 1941. In German.	1.50
5520-5557 PB L 73064	Rockwell hardness testing apparatus. Drawings. 1941. In German.	4.00
5558-5571 PB L 73064	Miscellaneous accessories for Panphot equipment. Drawings. 1943. In German.	1.50

PB L 73017. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY.
Drawings for optical instruments and accessories.
(FIAT Microfilm Reel C- 33, Frames 1-700) 1938.
700 f. Price: Microfilm - $6.00 - Enlargement prints-$70.00
This FIAT microfilm reel consists of drawings for optical instruments as listed below. The drawings will not reproduce well and some frames are illegible as indicated. Individual items will be available as enlargement prints only; the entire reel may be purchased for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

Frame	Titles	Price
1-6 PB L 73017	Universal heating table. In German.	$ 1.50
7-21 54 146-158 167-210 225-233 236 241-242 491, 497 531-532 558-592 617-674 682-700 PB L 73017	Projection apparatus of the following types: Edinger, III L, III G 2, III O, IV r, IV S, V a, V h2, VII s,VIII s, X L, XI b, workshop projectors XIV and XIV d, profile projector and Epi-Dia equipment. In German.	20.50
22-33 107 253-256 263-274 286-287 PB L 73017	Enlargement apparatus and accessories. In German.	3.50
34-48 128 414-417 474-480 504-511 PB L 73017	Panphot microscope and accessories. In German.	3.50
49-53 498-503 PB L 73017	Reflex camera 13 x 18 cm. In German.	1.50
59-60 518-526 PB L 73017	Rockwell hardness testing apparatus. In German.	1.50

61, 103-106, 112-113, PB L 73017 — Rapid-action shutter and shutter testing equipment. In German. 1.50

72-94, PB L 73017 — Metallographic equipment for Epiphot microscope and large metallographic microscope NM 1938. In German. 2.50

95, PB L 73017 — Apparatus for dilatometric temperature registration. In German. 1.50

96-98, PB L 73017 — Molybdenum furnace. In German. 1.50

101-102, PB L 73017 — Drum for time registration. In German. 1.50

108-111, 115-116, 125, 249-252, 285, 288-297, 315, PB L 73017 — Light sources and light boxes 24x 30 cm, 30 x 40 cm and 40 x 50 cm. In German. 2.50

114, 141-145, 316-318, 327-348, 354-358, PB L 73017 — Microscope stands of various descriptions. In German. 4.00

121-122, 124, 136-139, 222-224, 400-409, 419, PB L 73017 — Rotary, integration and surveying tables. In German. 2.50

123, 126-127, 129-132, PB L 73017 — Photometers, microphotometers and accessories. In German. 1.50

134-135, 159-165, 349-353, 360-364, 533, 538-544, 553, PB L 73017 — Microscopes and accessories. In German. 3.00

140, PB L 73017 — Needle extraction apparatus. In German. 1.50

234-235, PB L 73017 — Episcope. In German. 1.50

243-248, 446-450, 490, 512-517, PB L 73017 — Microscope motion-picture cameras Leifo, Agfa Movex and Siemens Type D. In German. 2.00

257-262, PB L 73017 — Printing frame 30x40 cm. In German. 1.50

275, 298, 365-399, PB L 73017 — Objectives: f = 2.8 cm, 1:7.7; f = 9 cm, 1:4.0; f = 16 cm for oil immersion; ZT D; a = 0.45, 20:1; Spis f = 32.5 cm and f = 40.0 cm; f = 3 mm for oil immersion; Spis objectives f from 800 mm to 1600 mm; Spar f = 800 mm with iris diaphragm; apochromat f = 5 mm. In German. 4.00

314, PB L 73017 — Rheostat 220 v for dilatometer. In German. 1.50

319-326, PB L 73017 — Colposcope. In German. 1.50

413, PB L 73017 — Compensator. In German. 1.50

420-424, PB L 73017 — Refractometer. In German. 1.50

425-427, PB L 73017 — Cabinet for H.S.P. miscroscope. In German. 1.50

437-442, PB L 73017 — Edinger drawing apparatus. In German. 1.50

467-472, PB L 73017 — Optical instrument for textile examination. In German. 1.50

495-496, PB L 73017 — Rotary light-filter changer. In German. 1.50

534-537, 554-555, 679-681, PB L 73017 — Trichinoscopes. In German. 1.50

545-551, PB L 73017 — Tensionmeter. In German. 1.50

55-58, 62-71, 99-100, 117-120, 133, 166, 211-221, 237-240, 276-284, 299-313, 359, 410-412, 418, 428-436, 443-445, 451-466, 473, 481-489, 492-494, 527-530, 552, 556-557, 593-616, 675-678, PB L 73017 — Illegible frames.

PB L 73070. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Index of instruments produced in the Leitz plant. (FIAT Microfilm Reel F-45, Frames 1-332). 1946. 332 f.
Price: Microfilm-$4.25 - Enlargement Print-$33.50
This FIAT microfilm reel reproduces a card file of all optical and a few non-optical instruments, devices and accessories which had been or were being produced by the Ernst Leitz G.m.b.H., Wetzlar, up to February 1946. There is an index of groups of instruments and an index of individual instruments within these groups and an introductory explanation of the meaning of numbers and marks found on these cards. In German.

PB L 73016. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Optical calculations, microscopes, etc. (FIAT microfilm Reel C-32, Frames 2186-2609) 1926-1944. 423 f.
Price: Microfilm - $5.00 Enlargement prints - $42.50
This FIAT microfilm reel consists of calculations and miscellaneous articles on microscopes, optical condensers, etc. The individual items listed below, will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $5.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German except when otherwise specified.

Frames	Title	Price
2186-2205, PB 73016	Non-spherical surfaces. (optics.) In German.	$2.00
2206, PB L 73016	On the shaping of lenses. Apr 20, 1944. In German.	1.50
2207-2236, PB L 73016	The comparative power of night glasses. Aug 2, 1943. In German.	3.00
2237-2247, PB L 73016	The luminous efficiency of rays entering the eye pupil at dif-	

ferent points. Dec 15, 1932. In English. 1.50

2248-2261 PB L 73016 Tests at the front for ascertaining the influence of the exit pupil and on the magnification on observation with night glasses. Jan 14, 1943. In German. 1.50

2262-2292 PB L 73016 On focus correction by telescopes in surrounding light intensities of less than 1/100 of apostilb. Dec 1, 1942. In German. 3.50

2293-2298 PB L 73016 The visual limit of moving signals. In German. 1.50

2299-2300 PB L 73016 Criterion for the capacity of telescopes. Jan 7, 1943. In German. 1.50

2301-2347 PB L 73016 On the physiological elementary law of perception of light stimuli. In German. 5.00

2348-2349 PB L 73016 Leitz instruments for testing and measuring telescopes. Mar 14, 1936. In German. 1.50

2350-2354 PB L 73016 Field glasses. Mar 12, 1936. In German. 1.50

2355-2356 PB L 73016 Stereoscopic antiaircraft telescope with a stroboscope. Sep 20, 1942. In German. 1.50

2357-2358 PB L 73016 Observations on technico-mechanical properties of telescopes. Jan 14, 1943. In German. 1.50

2359-2374 PB L 73016 Increasing the permeability to light by decreasing the refraction index at the surfaces of optical parts. Jul 22, 1941. In German. 2.00

2375-2380 PB L 73016 Cardioid condenser. Dec 15, 1926. In German. 1.50

2381-2391 PB L 73016 Ultraviolet ray microscope with bilateral light incidence. In French. 1.50

2392-2400 PB L 73016 Microscopes. In German. 1.50

2401-2404 PB L 73016 Theory of the bispherical condenser (optical instruments) In German. 1.50

2405-2415 PB L 73016 Reflex condensers for dark field illumination. Mar 1933. In German. 1.50

2416-2470 PB L 73016 Condensers. In German. 5.50

2471-2474 PB L 73016 Calculation of an eyepiece. May 30, 1930. In German. 1.50

2475-2480 PB L 73016 Correction of microscope images. In German. 1.50

2481-2491 PB L 73016 Photometric determination of hydrogen ion concentration. In German. 1.50

2492-2556 PB L 73016 Calculations of lenses and the treatment of other optical problems. In German. 6.50

2557-2594 PB L 73016 Operating instructions for calculating machines. 1938. In German. 4.00

2595-2609 PB L 73016 Planck's law. In German. 1.50

PB L 73016-S. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Optical calculations, microscopes, etc. (FIAT microfilm Reel C-32, Frames 2186-2609, abstract cards.)

1926-1944. 26 p. Price: Microfilm - $1.00 - Photostat - $2.00
This report consists of brief abstracts prepared by FIAT personnel in Germany, of FIAT microfilm reel C-32 (PB 73016) abstracted above.

PB L 73056. LEITZ, ERNST, G. M. B. H., WETZLAR, GERMANY. Parts lists and drawings for microscope accessories. (FIAT Microfilm Reel F 31, Frames 8460-9428). 1927-1941. 969 f. Price: Microfilm-$6.00 - enlargement print-$97.00
This FIAT microfilm reel consists of parts lists and drawings for mechanical stages, stands and other microscope accessories. Individual items are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
8460-8543 PB L 73056	Micromanipulator. Drawings. 1928. In German.	$8.50
8544 PB L 73056	Auxiliary mirror for A.B.M. tube. Drawing. 1928. In German.	1.50
8545 PB L 73056	Large mirror stand. Drawing. 1928. In German.	1.50
8546-8565 8578-8611 8984-9020 9029-9046 9184-9222 PB L 73056	Simple mechanical stages models U-O, H, A, Dr. Karman, with displacement from 25 x 25 mm to 76 x 51 mm. Drawings and parts lists. 1927-1941. In German.	15.00
8566-8577 9021-9027 PB L 73056	Fine adjustment for objectives. Parts lists and drawings. 1932-1940. In German.	2.00
8612-8910 9120-9137 9303-9309 PB L 73056	Ultropak microscope with accessories. Parts lists and drawings. 1929-1941. In German.	32.50
8911-8913 PB L 73056	Lever adjustment for dark-field microscopy. Parts list and drawings. 1929. In German.	1.50
8914-8931 PB L 73056	Diamond specimen markers, long and short. Parts lists and drawings. 1929. In German.	2.00
8932-8957 PB L 73056	Mineralogical and universal mechanical stage. Parts list and drawings. 1930. In German.	3.00
8958-8983 PB L 73056	Mechanical stage for special microscopes. Parts list and drawings. 1939. In German.	3.00
9028 PB L 73056	Specimen stage for insertion into sliding tube. Drawing. 1932. In German.	1.50
9047-9097 PB L 73056	Rectangular mechanical stage with ball bearings. Parts list and drawings. 1938. In German.	5.50
9098-9119 PB L 73056	Culture insulator. Parts list and drawings. 1932. In German.	2.50
9138-9143 PB L 73056	Bayonet type condenser changer. Parts list and drawings. 1932. In German.	1.50
9144-9160 PB L 73056	Rotary nosepiece. Parts list and drawings. 1932. In German.	2.00
9161 PB L 73056	Specimen holder with ridges for electrodes. Drawings. 1932. In German.	1.50

9162-9164 PB L 73056 — Microscope eyecup. Parts list and drawings. 1933. In German. 1.50

9165-9180 PB L 73056 — Glass plate condenser according to Dr. Heide. Parts list and drawings. 1932. In German. 2.00

9181-9183 PB L 73056 — Dermatological microscope. Photograph and drawings. 1933. In German. 1.50

9223-9265 PB L 73056 — Lateral screw adjustment for mechanical stage, 8 mm displacement. Parts list and drawings. 1941. In German. 4.50

9266-9284 PB L 73056 — Columnar stand with swinging arm. Parts list and drawings. 1934. In German. 2.00

9285-9302 PB L 73056 — Mechanical stage for table attachment. Parts list and drawings. 1931. In German. 2.00

9310-9428 PB L 73056 — Rotary mechanical stage. Parts list and drawings. 1931. In German. 12.00

PB L 73058. GERMANY. — LEITZ, ERNST, G. M. B. H., WETZLAR, Parts lists and drawings for microscope accessories. (FIAT Microfilm Reel F 33, Frames 206-1038). 1922-1941. 833 f. Price: Microfilm-$6.00 - enlargement print-$83.50

This FIAT microfilm reel consists of parts lists and drawings for miscellaneous microscope parts and accessories. Individual items are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
206-226 PB L 73058	Detachable compensator for illumination apparatus. Drawings. 1937. In German.	$2.50
227-241 PB L 73058	Mechanical stage for the examination of cerebral cuts. Drawings. 1939. In German.	1.50
242-267 PB L 73058	Built-in round mechanical stage with ball bearings for mineralogical stands. Parts list and drawings. 1935. In German.	3.00
268-415 PB L 73058	Micromanipulator according to Dr. Chambers. Parts list and drawings. 1937. In German.	5.00
416-464 PB L 73058	Built-in large mechanical stage with ball bearings. Parts list and drawings. 1937-1940. In German.	5.00
465-472 PB L 73058	Large mechanical stage with 40 mm x 120 mm displacement. Drawings. 1938. In German.	1.50
473-477 PB L 73058	Simple mechanical stage for projection. Drawings. 1938. In German.	1.50
478-481 PB L 73058	Cell for the study of living microorganisms ("Microaquarium"). Drawings. 1939. In German.	1.50
482-492 PB L 73058	Built-in small mechanical stage for device 20291. Drawings. 1939. In German.	1.50
493-504 PB L 73058	Built-in large mechanical stage for left-hand operation. Drawings. 1939. In German.	1.50
505 PB L 73058	Prism in a special mounting. Drawing. 1939. In German.	1.50
506-517 PB L 73058	Small mechanical stage for stand B. Drawings. 1940. In German.	1.50
518-558 PB L 73058	Condenser illumination device. Drawings. 1941. In German.	4.50
559-568 PB L 73058	Apertometer. Drawings. 1927. In German.	1.50
569-570 PB L 73058	Vial with a cap for cedar oil. Drawings. 1922. In German.	1.50
571-581 PB L 73058	Micrometer for cover glass and specimen holders. Parts list and drawings. 1922. In German.	1.50
582-590 PB L 73058	Cooler with filter holder. Parts list and drawings. 1927. In German.	1.50
591-599 PB L 73058	Holder for "Lifa" filter on stand. Parts list and drawings. 1931. In German.	1.50
600-682 PB L 73058	Heating and cooling table with automatic temperature regulation according to Dr. Eisenberg. Parts list and drawings. 1928. In German.	8.50
683-693 PB L 73058	Thread counter for a loupe with a large angle of view. Parts list and drawings. 1926. In German.	1.50
694-698 PB L 73058	Rectangular diaphragm for a loupe magnifying 15 x. Parts list and drawings. 1928. In German.	1.50
699-706 PB L 73058	Holder for a round cooler. Parts list, drawings and photograph. 1927. In German.	1.50
707-718 PB L 73058	Thread counter with 50 x 50 mm displacement. Parts list and drawings. 1926. In German.	1.50
719-769 PB L 73058	Needle extraction apparatus. Drawings. 1929. In German.	5.50
770-798 PB L 73058	Microprojection cell. Parts list and drawings. 1932. In German.	2.00
799-798 PB L 73058	Forehead support. Parts list, drawings and photograph. 1933. In German.	1.50
799 PB L 73058	Dark-field condenser for a micromanipulator. Drawing. 1928. In German.	1.50
800 PB L 73058	This frame is missing.	
801-809 PB L 73058	Cell according to Leroux. Parts list and drawings. 1932. In German.	1.50
810-820 PB L 73058	Compression cell. Parts list and drawings. 1933. In German.	1.50
821-904 PB L 73058	Heating table and micromanipulator according to	

Weygand. Parts list and drawings. 1933. In German. 8.50

904-941 PB L 73058 — Microscope heating table up to 1000°C. Parts list and drawings. 1934. In German. 4.00

942-974 PB L 73058 — Heating cell with built-in stage for Edinger microscope. Parts list and drawings. 1935. In German. 3.50

975-997 PB L 73058 — Vial for cedar oil. Drawings. 1935. (Will not reproduce well.) In German. 2.50

998-1018 PB L 73058 — Type projection apparatus for Seidel & Naumann. Parts list and drawings. 1936. (Will not reproduce well.) In German. 1.50

1019-1030 PB L 73058 — Compression cell for flowing liquids. Parts list and drawings. 1936. (Will not reproduce well.) In German. 1.50

1031-1035 PB L 73058 — These frames are illegible.

1036-1049 PB L 73058 — Box-type container for cedar oil. Parts list and drawings. 1936. (Will not reproduce well.) In German. 1.50

PB L 73057. LEITZ, ERNST, G. M. B. H., WETZLAR, GERMANY. Parts lists and drawings for microscope parts and accessories. (FIAT Microfilm Reel F 32, Frames 9428-9999; also frames 1-205). 1927-1938. 777 f. Price: Microfilm-$6.00 -Enlargement print-$78.00

This FIAT microfilm reel consists of parts lists and drawings for oculars, collectors, compensators and other microscope parts and accessories. Individual items are listed below and will be available as enlargement prints only; the entire reel may be purchased for $6.00 Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
9429-9496 PB L 73057	Universal rotary stage. Parts lists and drawings. 1932. In German.	$7.50
9497-9498 PB L 73057	Sterographic net. Parts lists and drawing. 1929. In German.	1.50
9499-9531 PB L 73057	Mica compensator. Parts lists and drawings. 1927. In German.	3.50
9532-9543 PB L 73057	Auxiliary aplanatic loupe. Parts lists and drawings. 1932. In German.	1.50
9544-9558 PB L 73057	Compensator according to Berek. Parts lists and drawings. 1929. In German.	1.50
9559-9571 PB L 73057	Polarization apparatus. Drawings only. 1932. In German.	1.50
9572-9596 PB L 73057	Ocular according to Wright. Parts lists and drawings. 1932. In German.	2.50
9597-9607 PB L 73057	Loupe according to Klein. Parts lists and drawings. 1932. In German.	1.50
9608-9623 PB L 73057	Integration table for four components. Parts lists and drawings. 1928. In German.	2.00
9624-9631 PB L 73057	Bertrand lense for ocular attachment. Parts lists and drawings. 1929. In German.	1.50
9632-9640 PB L 73057	Bertrand lense for planimetric and micrometric oculars. Parts lists and drawings. 1929. In German.	1.50
9626-9640 PB L 73057	Bertrand lense for oculars according to Wright. Parts lists and drawings. 1929. In German.	1.50
9641-9670 PB L 73057	Opaque illuminator for mineralogical microscopes. Parts lists and drawings. 1929. In German.	3.00
9651-9670 PB L 73057	Detachable analyzer for projectors. Parts lists and drawings. 1930. In German.	2.00
9671-9673 PB L 73057	Detachable Bertrand diaphragm oculars. Parts lists and drawings. 1930. In German.	1.50
9674-9686 PB L 73057	Microscope polarized according to Greenough. Parts lists and drawings. 1934. In German.	1.50
9687-9697 PB L 73057	Supplementary equipment for heating table according to Jentsch. Parts lists and drawings. 1934. In German.	1.50
9698-9713 PB L 73057	Fungological stage. Parts lists and drawings. 1931. In German.	2.00
9714-9719 PB L 73057	Specimen clamp. Parts list and drawings. 1931. In German.	1.50
9720-9731 PB L 73057	Universal rotary stage model U T 2. Parts lists and drawings. 1931. In German.	1.50
9732-9738 PB L 73057	Quartz and calcite compensator according to Johannsen. Parts lists and drawings. 1932. In German.	1.50
9739-9742 PB L 73057	Centering device for biological stands. Parts lists and drawings. 1932. In German.	1.50
9743-9751 PB L 73057	Detachable collector. Parts lists and drawings. 1932. In German.	1.50
9752-9773 PB L 73057	Compensator according to Babinet. Parts lists and drawings. 1932. In German.	2.00
9774-9799 PB L 73057	Heating table according to Wilfing. Parts lists and drawings. 1932. In German.	3.00
9800-9819 PB L 73057	Microphotometer for dark-field microscopes using slit condensers. Parts lists and drawings. 1937. In German.	2.00
9820-9836 PB L 73057	Specimen brace. Parts lists and drawings. 1934. In German.	2.00
9837-9857 PB L 73057	Universal rotary stage with five axes. Parts lists and drawings. 1938. In German.	2.50
9858-9864 PB L 73057	Heating table according to Eisenberg, for mineralogic stands. Parts lists and drawings. 1934. In German.	1.50

5865-9880 PB L 73057 — Crystal chamber, Models I and II. Parts lists and drawings. 1935. In German. 2.00

9881-9922 PB L 73057 — Photometer for Ultropak microscope. Parts lists and drawings. 1937. In German. 4.50

9923-9936 PB L 73057 — Microphotometer for Panphot microscope. Parts lists and drawings. 1927. In German. 1.50

9937-9969 PB L 73057 — Ultraviolet rays slit-condenser equipment for Panphot microscope. Parts lists and drawings. 1936. In German. 3.50

9967-9969 PB L 73057 — Photometer for Ultropak and Panphot microscopes. Drawings only. 1937. In German. 1.50

9970-9999 1-26 PB L 73057 — Absorption photometer. Parts lists and drawings. 1937. In German. 6.00

27-42 PB L 73057 — Panphot projector for polarized light. Parts lists and drawings. 1935. In German. 2.00

43-46 PB L 73057 — Collectors for polarization microscopes. Parts lists and drawings. 1936. In German. 1.50

47-153 PB L 73057 — Ocular with an elliptical polarizer. Parts lists and drawings. 1936. In German. 11.00

154-160 PB L 73057 — Polarization filter for microscopes. Parts lists and drawings. 1936. In German. 1.50

161-193 PB L 73057 — Lighting equipment for opaque illumination. Parts lists and drawings. 1936. In German. 3.50

194-206 PB L 73057 — Special stage with diaphragm polarizer. Drawings only. 1938. In German. 1.50

PB L 73061. LEITZ, ERNST, G. M. B. H., WETZLAR, GERMANY. Parts lists and drawings for microscopes and microphotographic and macrophotographic apparatus with accessories. (FIAT Microfilm Reel F 30, Frames 2778-3645). 1921-1943. 870 f. Price: Microfilm-$6.00 - Enlargement print-$87.00

This FIAT microfilm reel consists of parts lists and drawings for microscopes, microphotographic and macrophotographic apparatus and their accessories. Individual items are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfilm for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
2778-2839 PB L 73061	Mineralogical microscope according to Edinger. (Continuation of last item of Reel F 35, PB 73060). Drawings. 1926. In German.	$6.50
2840-3176 PB L 73061	Projection and drawing apparatus according to Edinger. Parts list and drawings. 1921-1926. In German.	34.00
3177-3179 PB L 73061	Parts lists for the microphotographic apparatus U.M.A. 1921. In German.	1.50
3180-3214 PB L 73061	Optical bench with swinging equipment. Parts list and drawings. 1921. In German.	3.50
3215-3233 PB L 73061	Vertical specimen stage. Parts list and drawings. 1924. In German.	2.00
3234-3257 PB L 73061	Lamp stand with collimator for large microphotographic apparatus U.M.A. Parts list and drawings. 1928. In German.	2.50
3258-3373 PB L 73061	Large swinging camera for large microphotographic apparatus U.M.A. Parts list and drawings. 1922. In German.	12.00
3374-3381 PB L 73061	Large fixed camera for large microphotographic apparatus U.M.A. Parts list and drawings. 1923. In German.	1.50
3382-3403 PB L 73061	Small camera, 13 x 18 cm, for large microphotographic apparatus U.M.A. Parts list and drawings. 1923. In German.	2.50
3404-3462 PB L 73061	Auxiliary box for photographic camera with a fine adjustment for telefocusing loupe, for microphotographic apparatus U.M.A. Parts list and drawings. 1923. In German.	6.00
3463-3474 PB L 73061	Mirror stand for microphotographic apparatus U.M.A. Drawings. In German.	1.50
3475-3492 PB L 73061	Illumination equipment for macroscopic exposures with microphotographic apparatus U.M.A. Parts list and drawings. 1938. In German.	2.00
3493-3507 PB L 73061	Attachment for stereoscopic exposures with microphotographic apparatus U.M.A. Parts list and drawings. 1922. In German.	1.50
3508-3509 PB L 73061	Auxiliary collector for projection with mirror stand for microphotographic apparatus U.M.A. Parts list and drawing. 1923. In German.	1.50
3510-3548 PB L 73061	Profile projection and drawings apparatus. Parts list and drawings. 1925. In German.	4.00
3549-3562 PB L 73061	Automatic release. Parts list and drawings. 1927. In German.	1.50
3563-3564B PB L 73061	Projection screen 42 x 42 cm. Parts list and drawings. 1927. In German.	1.50
3565-3580 PB L 73061	Microphotographic apparatus IVa with optical bench. Parts list and drawings. 1935. In German.	2.00
3581-3587 PB L 73061	Swinging board for microphotographic apparatus IV a. Drawings. 1935. In German.	1.50
3588-3598 PB L 73061	Auxiliary camera with Ipso shutter without the focusing telescope for microphotographic apparatus IV a. Drawings and photograph. 1940. In German.	1.50
3599-3605 PB L 73061	Microphotographic equipment for metallographic microscope M.A. III. Drawings and photographs. 1943. In German.	1.50
3606-3645 PB L 73061	Microphotographic apparatus III for metallographic microscope M.A. III. Parts list and drawings. 1937. In German.	4.00

PB L 73062. LEITZ, ERNST, G. M. B. H., WETZLAR, GERMANY. Parts lists and drawings for microscopes, microscope cameras and accessories. (FIAT Microfilm Reel F 37, Frames 3646-4515). 1928-1938. 870 f. Price: Microfilm-$6.00 - Enlargement print-$87.00

This FIAT microfilm reel consists of parts lists and drawings for accessories to the Panphot microscope equipment and other apparatus used in connection with microscopy and microphotography in various scientific and industrial fields. Individual items are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
3646-3647 PB L 73062	Auxiliary camera using a loupe with a wide angle of view. Drawings. 1932. In German.	$1.50
3648-3658 PB L 73062	Cooler and equipment for it. Drawings. 1932. In German.	1.50
3659-3676 PB L 73062	Equipment for dermatological micro-photography. Parts lists and drawings. 1927-1932. In German.	2.00
3677-3690 PB L 73062	Auxiliary motion-picture microfilm camera "Kafilmca". Parts lists and drawings. 1938. In German.	1.50
3691-3703 PB L 73062	Motion-picture camera for dermatological microscopes. Parts lists and drawings. 1927. In German.	1.50
3704-3715 PB L 73062	Focusing board. Parts list and drawings. 1937. In German.	1.50
3716-3736 PB L 73062	Focusing attachment for a motion-picture microfilm camera. Parts list and drawings. 1928. In German.	2.50
3737-3749 PB L 73062	Focusing mirror on articulated arms with ball bearings. Parts list and drawings. 1932. In German.	1.50
3750-3753 PB L 73062	Camera 18 x 18 cm. for MM microscopes. Parts list and drawings. 1931. In German.	1.50
3754-3773 PB L 73062	Focusing attachment with diagonal view. Photograph, parts list and drawings. 1931. In German.	2.00
3774-3785 PB L 73062	Focusing attachment with a focusing screen. Parts list and drawings. In German.	2.50
3786-3816 PB L 73062	Universal optical textile testing apparatus. Photograph, parts list and drawings. 1933. In German.	3.50
3817-3865 PB L 73062	Universal microscope for coal petrography. Parts list and drawings. 1933. In German.	5.00
3866-3904 PB L 73062	Stereoscopic camera for micro-photography. Parts list and drawings. 1934. In German.	4.00
3905-3965 PB L 73062	Variable arc-light illumination for Panphot microscope equipment. Parts list and drawings. 1935. In German.	6.50
3966-3972 PB L 73062	Extension drawing table. Parts list and drawings. 1934. In German.	1.50
3973-3976 PB L 73062	Camera for slow-motion investigation of growth processes for Panphot equipment. Drawings and parts list. 1935. In German.	1.50
3977-3996 PB L 73062	Siemens microcinecamera. Parts list and drawings. 1935. In German.	2.00
3997-4007 PB L 73062	Macroscopic all-over illumination for Panphot equipment. Parts list and drawings. 1935. In German.	1.50
4008-4015 PB L 73062	Ultropak with hinged polarizer for Panphot equipment. Parts list and drawings. 1934. In German.	1.50
4016-4041 PB L 73062	Ocular with drawing mirror for Panphot equipment. Parts list and drawings. 1934. In German.	2.50
4042-4056 PB L 73062	Arc lamp and Ultropak camera for Panphot equipment. Parts lists and drawings. 1934. In German.	1.50
4057-4097 PB L 73062	Reflex camera 18 x 18 cm for Panphot equipment. Parts list and drawings. 1935. In German.	4.50
4098-4101 PB L 73062	Agfa miniature film camera "Movex" for Panphot equipment. Parts list and drawings. 1935. In German.	1.50
4102-4108 PB L 73062	Equipment for the examination of fibre cross sections. Drawings. 1937. In German.	1.50
4109-4114 PB L 73062	Auxiliary light-filter nose piece for Panphot equipment. Parts list and drawings. 1936. In German.	2.00
4115-4145 PB L 73062	Combination Opak-Ultropak with a special tube for Panphot equipment. Drawings and parts list. 1935. In German.	3.50
4146-4171 PB L 73062	Slide board for measuring layer profiles for Panphot equipment. Parts list and drawings. 1935-1937. In German.	3.00
4172-4186 PB L 73062	Incident light illumination for macrophotography with Panphot equipment. Parts list and drawings. 1935. In German.	2.00
4187-4194 PB L 73062	Camera with focusing equipment and telescopic lense for Panphot equipment. Parts list and drawings. 1935. In German.	1.50
4195-4199 PB L 73062	Projection chamber for Panphot equipment. Parts list and drawings. 1938. In German.	1.50
4200-4201 4302-4411 PB L 73062	Comparison microscope for Panphot equipment. Parts lists and drawings. 1935-1937. In German.	11.50
4202-4301 PB L 73062	Profile projection arrangement for Panphot equipment. Parts list and drawings. 1935. In German.	10.00
4412-4444 PB L 73062	Reflex arrangement for a 13 x 18 cm camera. Drawings only. 1938. In German.	3.50
4445-4449 PB L 73062	Nosepiece and focusing loupe for Leica camera used with Panphot equipment. Parts list and drawings. 1936. In German.	1.50
4450-4485 PB L 73062	Metallographic microscope for Panphot equipment. Parts list and drawings. 1937. In German.	4.00
4486-4492 PB L 73062	Rotary stage for P.P.A. microscope. Parts list and drawings. 1936. In German.	1.50

4493-4515 PB L 73062	Diaphot equipment. Parts lists. Drawings in Reel F 38, PB L 73063. In German.	2.50

PB L 73052. LEITZ, ERNST, G. M. B. H., WETZLAR, GERMANY. Parts lists and drawings for objectives. (FIAT Microfilm Reel F 27, Frames 4631-5613). 1929-1941. 984 f. Price: Microfilm-$6.00 - Enlargement print-$98.50

This FIAT microfilm reel consists of drawings and parts lists for objectives as listed below. Individual items will be available as enlargement prints only; the entire reel may be purchased for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
4631-4657 PB L 73052	Teleobjective f = 75 mm, 1 : 4. Parts lists and drawings. 1933. In German.	$3.00
4658-4672 4760-4792 4815-4841 4863-4867 PB L 73052	Objectives Hektor and Hektor Rapid. f = 50 mm and f = 12 mm, 1 : 2,5 and 1 : 1,5. Drawings and parts lists. 1932-1934. In German.	8.00
4673-4708 4886-4895 PB L 73052	Objectives Elmar, f from 50 mm to 95 mm, 1 : 4 and 1 : 4,5. Parts lists and drawings. 1933. In German.	5.00
4709-4759 4842-4853 PB L 73052	Miniature film objectives Summar, f from 12 mm to 25 mm, 1 : 2,5 and 1 : 1,5. Parts lists and drawings. 1934. In German.	6.50
4793-4814 4854-4862 PB L 73052	Miniature film objective Tetyl, f = 7,5 cm, 1 : 4. Parts lists and drawings. 1934. In German.	3.50
4868-4885 PB L 73052	Leitz anastigmat f = 7,5 cm, 1 : 4,5. Parts lists and drawings. 1934. In German.	2.00
4896-4928 5170-5316 PB L 73052	Objectives of models K 8 : 1; L4; SM 13; 1 : 6; A 0, 75; JM; AJM; K 4; M; HM; DJM; HJM; A from 0, 80 to 1, 36. Parts lists and drawings. 1932-1941. In German.	18.00
4929 4938-4945 4949-4950 4954-4956 4959-4963 4970-5046 5052-5060 5063-5087 5089-5092 5095-5119 PB L 73052	Objectives U-O, from 3 x to 100 x, dry and for immersion. Lists of lenses, parts lists and drawings. 1930-1931. In German.	16.00
4930-4937 PB L 73052	Projector objective Epis, f= 1000 mm, 1 : 6. Parts lists and drawings. In German.	1.50
4946-4948 4951-5953 4957-4958 4964-4969 5047-5051 5061-5062 5088A-5088B 5093-5094 PB L 73052	Objectives E, from 3,2 x to 100 x. Dry and for immersion. Parts lists and drawings. 1929-1934. In German.	2.50
5120-5125 PB L 73052	Sound film objective, special construction. Parts list and drawings. 1938. In German.	1.50
5126-5155 5165-5169 PB L 73052	Objectives MM, f from 8 mm to 32 mm. A from 0, 14 to 0, 56. Parts lists and drawings. 1938. In German.	3.50
5156-5164 PB L 73052	Apochromat f = 4 mm, A = 0, 95. Parts lists and drawings. 1931. In German.	1.50
5317-5409 5495-5530 PB L 73052	Objectives Hillar, f from 5 mm to 100 mm, 1 : 3,5 to 1 : 4,8. Parts lists and drawings. 1930-1940. In German.	13.00
5410-5426 PB L 73052	Objectives Photar, f = 18 cm and f = 13 cm, 1 : 6,8 and 1 : 6,3. Parts lists and drawings. 1931. In German.	2.00
5427-5494 PB L 73052	Projector objectives Dimar, 120 mm to 300 mm. Parts lists and drawings. 1930-1940. In German.	7.00
5531-5613 PB L 73052	Projector objectives Dimar, 150 mm to 500 mm. Parts lists and drawings. 1936-1940. In German.	8.50

PB L 73054. LEITZ, ERNST, G. M. B. H., WETZLAR, GERMANY. Parts lists and drawings for optical condensers. (FIAT Microfilm Reel F-29, Frames 6555-7566). 1914-1946. 960 f. Price: Microfilm-$6.00 -Enlargement print-$96.00

This FIAT microfilm reel consists of drawings and parts lists for various types of optical condensers and their accessories as listed below. Individual items will be available as enlargement prints only; the entire reel may be purchased for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
6555 PB L 73054	Insert diaphragms for dark-field condensers. Drawing. In German.	$1.50
6556-6559 6576-6602 6685-6799 6737-6745 PB L 73054	Two-lens condensers, A = 1,20 and 1,00. Drawings and parts lists. 1923-1938. In German.	6.00
6560-6564 6701-6719 6732-6736 PB L 73054	Three-lens condensers, A = 1,40. Drawings and parts lists. 1923-1940. In German.	3.00
6565-6575 6720-6731 PB L 73054	Achromatic and aplanatic condensers. Drawings and parts lists. 1922-1928. In German.	2.50
6603-6605 6757-6774 6777-6810 6860-6885 6896-6936 PB L 73054	Dark-field condensers. A from 0,45 to 1,40. Drawings and parts lists. 1927-1936. In German.	11.50
6606-6640 6811-6837 PB L 73054	Condenser for dark and light-field microscopy. A = 0,75. Drawings and parts lists. 1928-1938. In German.	6.50
6641-6650 PB L 73054	Single counting cell for dark-field microscopes. Parts lists and drawings. 1925. In German.	1.50
6651-6657 6746-6751 6859-6868 PB L 73054	Centering frames for condensers. Parts lists and drawings. 1923-1925. In German.	2.50
6658-6671 PB L 73054	Single-lens condensers for collimators. Parts lists	

and drawings. 1923-1925
In German. 1.50

6672-6684
PB L 73054 — Adjustable frame for an iris diaphragm. Parts lists and drawings. 1933. In German. 1.50

6752-6756
PB L 73054 — Spherical and achromatic condenser A = 1,00. Drawings. 1925. In German. 1.50

6775-6776
PB L 73054 — Summar condenser for microscope stands. Parts lists and drawings. 1927. In German. 1.50

6838-6858
PB L 73054 — Bicentric condenser for dark-field microscopes. Parts lists and drawings. 1936. In German. 2.50

6886-6895
PB L 73054 — Hinged condenser frame without iris diaphragm. Drawings. 1933. In German. 1.50

6937-6955
PB L 73054 — Dark-field condenser Variap. Drawings and parts list. 1937. In German. 2.00

6956-7015
PB L 73054 — Replacement mechanism for slide rails of an illumination apparatus. Parts list and drawings. 1938-1939. In German. 6.00

7016-7031
PB L 73054 — Central iris diaphragm for smoked glass mounting. Parts list and drawings. 1937. In German. 2.00

7032-7034
PB L 73054 — Superpressure chamber for I.G. Farbenindustrie. Drawings. 1938. In German. 1.50

7035-7040
PB L 73054 — Cylinder for insert diaphragms. Parts lists and drawings. 1938. In German. 1.50

7041-7051
PB L 73054 — Cylindrical iris diaphragm. Drawings. 1938. In German. 1.50

7052-7058
PB L 73054 — Condenser A-O for counting cells. Drawings. 1938. In German. 1.50

7059-7065
PB L 73054 — Three-lens quartz condenser. Drawings. 1938. In German. 1.50

7066-7080
PB L 73054 — Two-diaphragm condenser with cross slide and polarizer. Parts lists and drawings. 1940. In German. 1.50

7081-7095
PB L 73054 — Equipment for coloration by optical means. Parts list and drawings. 1941. In German. 1.50

7096-7100
PB L 73054 — Mounting for a combination green-light filter. Drawings. 1925. In German. 1.50

7101-7146
PB L 73054 — Aplanatic loupes according to Steinheil. Enlargement from 4 x to 40 x and from 6x/12x to 6x/30x. Parts lists and drawings. 1919-1923. In German. 5.00

7147-7148
PB L 73054 — List of Leitz loupes. 1919. In German. 1.50

7149-7257
7290
7345
PB L 73054 — Pocket loupes, aplanatic, according to Steinheil. Enlargement from 6 x to 40 x and from 6x/12x to 30x/40x. Parts lists and drawings. 1914-1923. In German. 11.00

7258-7289
7300-7340 — Reading glasses, diameters from 25 mm to 100 mm. Parts lists and drawings. 1923-1926. In German. 7.50

7258a-7289a
7270-7273
PB L 73054 — Focusing loupe. Drawings and parts list. 1922. In German. 2.00

7274-7298
PB L 73054 — Planktological loupe according to Prof. Kolkwitz. Drawings and parts lists. 1923. In German. 2.50

7341-7344
PB L 73054 — Loupe mounting. Drawings. 1925. In German. 1.50

7346-7364
PB L 73054 — Thread-counter loupe. Parts list and drawings. 1926. In German. 2.00

7365-7415
PB L 73054 — Binocular loupe for forehead attachment, 3.5 x. Parts list, drawings and photographs. 1928. In German. 5.50

7436-7453
PB L 73054 — Measuring loupe, 8 x. Parts list and drawings. 1933. In German. 2.00

7454-7478
PB L 73054 — Stand for reading glasses. Parts list, drawings and photographs. 1940. In German. 2.50

7479-7483
PB L 73054 — Loupe for I. G. Farbenindustrie, Ludwigshafen. Parts list and drawings. 1931. In German. 1.50

7484-7505
PB L 73054 — Loupes with illuminated field of view, 6 x and 8 x. Parts lists and drawings. 1933. In German. 2.00

PB L 73046. LEITZ, ERNST, G. M. B. H., WETZLAR, GERMANY. Parts lists and drawings for optical instruments and accessories. (FIAT Microfilm Reel F 21, Frames 1-1012). 1925-1940. 1012 f. Price: Microfilm-$6.00 - enlargement print-$101.50

This reel consists of parts lists, drawings for and, in some cases, photographs of optical instruments, their accessories and parts as listed below. Individual items will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
1-13 138-148 PB L 73046	Microscope stands with table clamp. Drawings and parts lists. 1925. In German.	$2.50
14-98 149-183 365-706 765-767 911-1012 PB L 73046	Microscope stands models: VIIF, A.M., III M., VI M., VI ma., VI Mb., B.M., "Chem"., colposcope stand, traveling stand, C.M.U., G.M. U., B.M.W. and A.B.M. Parts lists and drawings. 1925-1940. In German.	57.00
99-137 PB L 73046	Corneal microscope. Parts lists and drawings. 1927. In German.	4.00
184-201 264-326 904-910 PB L 73046	Monocular and binocular tubus with one or more objectives. Parts lists and drawings. 1925-1932. In German.	9.00
202-234 824-838 PB L 73046	Entomological equipment for a loupe with a large angle of view. Drawings and parts lists. 1929. In German.	5.00
235-244 839-903 PB L 73046	Monocular dermatological microscopes. Parts lists and drawings. 1927 and 1930. In German.	7.50

Photographic and Optical Goods (contd)

245-263 PB L 73046	Polarimeter prisms of various descriptions. Price lists and drawings. 1928-1932. In German.	2.00
327-364 PB L 73046	Various types and makes of compensators for polarimeters. Drawings. 1928-1932. In German.	4.00
707-764 PB L 73046	Accessories for Panphot microscope. Parts lists and drawings. 1937. In German.	6.00
768-823 PB L 73046	Microscope table for transmitted light. Photographs. Drawings and parts lists. 1929. In German.	6.00

PB L 73048. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Parts lists and drawings for optical instruments. (FIAT Microfilm Reel F 23, Frames 1002-1985) 1934-1940. 983 f. Price: Microfilm - $6.00- Enlargement prints - $98.50.
This FIAT microfilm reel consists of drawings for optical instruments and accessories, their parts and parts lists, as listed below. Individual items will be available as enlargement prints only; the entire reel may be purchased for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Titles	Price
1002-1020 PB L 73048	Stereoscopic microscope. Parts lists and drawings. 1934. In German.	$2.00
1021-1034 PB L 73048	Traveling trichinoscope. Parts lists and drawings. 1935. In German.	1.50
1035-1052 PB L 73048	Loupe, 7x, with 300 mm observation distance. Drawings. 1935. In German.	2.00
1053-1094 PB L 73048	Special microscope stand for cancer investigation. Parts lists and drawings. 1935. In German.	4.50
1095-1118 PB L 73048	Stand with ball bearing slide, 100 x 250 mm displacement. Parts list and drawings. 1936. In German.	2.50
1119-1125 1586-1935 1944-1985 PB L 73048	Microscope stands, models: S., G., B., and G. Drawings. 1937-1939. In German.	40.00
1126-1183 PB L 73048	Microscope stand for weld examination. Drawings and parts lists. 1937. In German.	6.00
1184-1463 PB L 73048	Large microscope stand with a low voltage lamp. Drawings. 1939. In German.	28.00
1464-1522 PB L 73048	Small microscope stand with a low-voltage lamp. Drawings. 1939. In German.	6.00
1523-1585 PB L 73048	Measuring microscope with 50 mm displacement. Drawings. 1940. In German.	6.50
1936-1943 PB L 73048	Microscope stage for penetrating light. Drawing. 1940. In German.	5.00

PB L 73928. STEINHEIL SÖHNE, MÜNCHEN. Report on phase microscopy and description of a prism refractometer. (FIAT Microfilm Reel A-60, Frames 1-29). 1940. 29 f. Price: Microfilm-$1.25 - Enlargement Print-$3.00

The film, prepared by FIAT investigators in Germany, contains the results of the interrogation of competent authorities of the optical firms of Steinheil and Sons, Munich, and the Optical Works G. Rodenstock, Munich and an account of the trustee appointed for the Steinheil Co., in English. Subject of the interrogation was phase-microscopy. None of the two firms had been working in this field. Furthermore, conditions and capacity of the firms and their newest developments are discussed (At Steinheil: Coating of the surface of lenses in order to improve the transparency). The film also contains a description of a prism- refractometer of the Rodenstock Co, in German. This instrument is for optical determination of refraction of the human eye. In German.

PB L 77288. WEBSTER, DAVID L. Report on investigation for the development of an automatic shutter to protect dark adaptation in high vision against enemy bombers. OSRsr-100. Jan 1942. 19 p. Price: Microfilm-$1.00 - Photostat-$2.00
In this report the electrical part of the automatic shutter is described by Dr. Chapman, and the mechanical part described by Professor Kirkpatrick, both of the Stanford University. Electrical circuits and diagrams are included.

PHYSICS

General

PB L 80673. CALIFORNIA. UNIVERSITY. OCEANOGRAPHIC DIVISION. Refraction of sound rays in the atmosphere. Sep 1942. 29 p. Price: Microfilm-$1.00 - Photostat-$2.00
This report presents an outline of the problem of the curvature of sound rays in the atmosphere together with the more important results which guide the computation of limiting acoustic ranges. No attempt has been made to discuss the theoretical development other than to indicate the assumption and general nature of the physical situation. The theory has been thouroughly covered in the references listed on page 17 of this report and the results are given from these references and from this study. A table and charts are included. This study was preapared for the NDRC by the Oceanographic Division of the University of California, Division of National Defense Research at the U. S. Navy Radio and Sound Laboratory, San Diego, California.

PB L 77737. CARHART, R. R. Range and travel time of a sound ray in a medium of uniformly varying velocity. Nov 1942. 31 p. Price: Microfilm-$1.00 - Photostat-$3.00
Simple refraction theory of sound rays is presented in a form convenient for calculations and theoretical work. In a layer with a constant sound velocity gradient the ray is a circle curving down if the velocity decreases with depth and up if it increases with depth. The range and travel time between any two points of the ray are expressed in several equations. A simple and extremely accurate method for approximating the travel time is described and used in a numerical example which compares the various expressions. The approximate arrival-time differences between the direct and surface reflected rays is given for rays of negligible curvature. Variations in surface wave height are sufficient to cause interference between the two rays at usual ranges for frequencies around 25 kc when the source and receiver are near the surface. This study was prepared for the NDRC by the Oceanographic Division, U. of California, Division of National Defense Research of the U. S. Navy Radio and Sound Laboratory, San Diego, California.

PB L 77289. EVEREST, F. A. and others. Water background noise in San Diego area. Aug 1942. 32 p. Price: Microfilm-$1.00 - Photostat-$3.00
The data presented herewith on water background noise were obtained since February in the general vicinity of San Diego Harbor. Under deep sea conditions the average overall noise level was found to be 81 db (0 db - 0.0002 dyne/cm^2) and the average noise spectrum (1 cycle band width) was observed to

drop off at the rate of 4 db/octave, starting with 46 db at 100 c.p.s. No appreciable variation of deep sea water noise with depth or azimuth angle has been found. Harbor maps, photographs and charts are included. This work was carried out under contract OEMsr-30 between the National Defense Research Committee and the University of California, Division of National Defense Research at the U. S. Navy Radio and Sound Laboratory, San Diego, California.

PB L 77291. EYRING, CARL F. and others. Echoes from wakes. Aug 1942. 19 p. Price: Microfilm-$1.00 - Photostat-$2.00

The wakes studied were produced in some cases by a submarine at periscope depth passing the observers' station on a straight course, and in other cases by the observers' vessel itself, maneuvered in such a way as to make its wake available for experiment. The "decay" rates of these wakes were measured in terms of the reduction of echo intensity with time, and were expressed as db per minute. The "decay" rate was shown to depend on the age of the wake, and on the roughness of the sea, the higher rates (3 or more db per minute) occurring with newly formed wakes and rough seas. A lower limit of 2 db per minute was indicated. Graphs and charts are included. This report was prepared by the Reverberation Group, University of California, Division of National Defense Research at the U. S. Navy Radio and Sound Laboratory, San Diego, California.

PB L 79362. JAMISON, R. R. and MORDELL, D. L. The compressible flow of fluids in ducts. (Gt Brit Aeronautical Res Council Rept and Memo 2031; British Commonwealth Scientific Office Rept 33-B3-144). Mar 1945. 73 p. Price: Microfilm-$2.00 - Photostat-$5.00

In this report is presented a series of graphs showing the relationship of the principal variables encountered in problems of compressible fluid flow in ducts. The variables have been arranged in dimensionless groups so chosen that the solution of each of the rather complex equations involved is completely expressed by a family of curves potted between two of the groups with the flow efficiency as parameter. As the equations from which these graphs have been derived contain, in general, six variables connected by functions characterised by non-integral exponents, the solution by customary methods of trial and error is usually a cumbersome process. This drawback is largely eliminated by the use of the flow-function graphs given in this report which are of general application to any duct, irrespective of its dimensions and which deal with choking and supersonic conditions.

PB L 69942. JONES, W. M. Table of direction-cosines to four figures at intervals of one degree in latitude and longitude over a zone of 60° of longitude and latitude from 0° to 40°. (Extracted from the New Zealand Journal of Science and Technology, Vol. 26, no. 3). Oct 1944. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00

The tables given are intended for use in seismological (also perhaps navigational and radio-transmission) problems where the distance from a given point to any point inside a certain region may be required. They have been used by the writer, for example, to draw curves showing the differences of arrival-times of P, at pairs of observatories, from earthquakes in the South Pacific.

PB L 77756. MCMILLAN, EDWIN M. Observations of echo signals obtained using variable frequency transmission. Jul 1942. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00

In dealing with the problem of large amplitude fluctuations in underwater echoes, (1) Frequency modulation offers very considerable improvement in the distinguishability of echoes from reverberation; (2) for listening, the single frequency sweep, as used by the Submarine Signal Co., is preferable, because of the ability of the ear to differentiate a tone, or sequence of tones, from a toneless background; and (3) for presentation on a cathode ray screen, rapid modulation by a sine wave or by noise is preferable, because it gives more effective smoothing of the reverberation. Two sketches are included. This work was carried out under contract OEMsr-30 of the National Defense Research Committee with the University of California, Division of National Defense Research at the U. S. Navy Radio and Sound Laboratory, San Diego, California.

PB L 79114. SCHUBAUER, G. B. and KLEBANOFF, P. S. Theory and application of hot-wire instruments in the investigation of turbulent boundary layers. (Natl Advisory Committee for Aeronautics Rept W-86, AC Rept 5K27). Mar 1946. 62 p. Price: Microfilm-$2.00 - Photostat-$5.00

An account is given of the recent developments in hot-wire instruments for use in turbulent boundary layers to determine the magnitude of the several components of the turbulent velocity fluctuations together with the correlation between them and turbulent shearing stress. The instruments were developed in order to make possible a study of the turbulent characteristics of the layer as well as the average characteristics in a general investigation of the turbulent boundary layer under conditions producing separation. The experimental setup used to provide a thick turbulent boundary layer is described, and results are included to show the general nature of the boundary layer, as well as examples of the measured fluctuations, correlation coefficient, and turbulent shearing stress. Finally the errors inherent in the hot-wire method are discussed. A bibliography, photograph, diagrams, and graphs are included.

PB L 80670. THORNDIKE, A. M. Some problems concerned with cavitation. May 1942. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00

This report contains an analysis of the conception of the phenomenon of cavitation, its nature and a discussion of some of the problems concerned with cavitation. Graphs included.

PB L 80874. WIENER, FRANCIS M. On the diffraction of a progressive sound wave by the human head. (Harvard Univ Psycho-Acoustic Lab Rept PNR-30). Jan 1947. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00

This document is a reprint of an article that appeared in The Journal of the Acoustical Society of America, vol. 19, No. 1, 143-146, January, 1947. This study is concerned with the direct experimental evaluation of the magnitude of the sound pressures of the right and left eardrums of a number of observers exposed to a progressive sound wave with vertical wave front, as a function of frequency and angle of incidence. Data are also presented showing the obstacle effect of the head and auditory canal over a range of azimuth covering 360 degrees. Charts are included.

RUBBER AND RUBBER PRODUCTS

PB L 80879. AUXIER, GEORGE W. Rubber policies of the National Defense Advisory Commission and the Office of Production Management, May 1940 to Dec. 1941. (CPA Historical Repts on War Administration: WPB Special Study 28). Apr 1947. 108 p. Price: Microfilm-$3.00 - Photostat-$8.00

The present study covers the origins of planning to protect the United States from the consequences of possible loss of its vital rubber supply. Primarily, it is an analysis of the policies and actions which the National Defense Advisory Commission and the Office of Production Management adopted to provide and conserve rubber for national defense. The account is factual and objective in approach. The following topics are included: Developing the crude rubber stockpile program; developing the synthetic rubber program; other sources of rubber supply; and conserving the supply of rubber. A chronology and tables are included.

PB L 77817. GREAT BRITAIN. MINISTRY OF SUPPLY. Low pressure flexible oxygen tubing (Mark VI). (Material Specification D.T.D. 799; British Commonwealth Scientific Office Rept 26-328-232) Jul 1946. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 78638. GREGORY, F. S., JR. and others. Development of synthetic rubber gas mask compound with improved low-temperature flexibility. (Mass Institute of Technology Memo Rept 215) n.d. 131 p. Price: Microfilm-$3.00 - Photostat-$9.00
The object of the work described in this report was to develop a synthetic rubber compound for gas masks which would be suitable for use after long periods of storage at temperatures between - 20°F. and +140°F. - A butyl rubber compound was developed which processed well in the factory and which produced satisfactory gas faceblanks, hosetubes and nosecups. A bibliography, tables and mixing charts are included.

PB L 78643. GREGORY, FRANK. The use of GR-S as a substitute for natural rubber in gas mask items. (Mass Institute of Technology Memo Rept 214) Oct 1945. 158 p. Price: Microfilm-$4.00 - Photostat-$11.00
The object of the work described in this report was to develop GR-S (Buna-S) compounds which would be usable in gas mask items as substitutes for natural rubber. A GR-S compound was developed which can be processed in the factory to give acceptable original physical properties (including low temperature flexibility). However, the aging properties of this compound are not acceptable, and it is recommended that work be undertaken to improve the aging qualities of the compound developed. Numerous data tables are included.

PB L 78642. GREGORY, JOHN B. Development of simple flexibility test for gas mask rubber. (Mass Institute of Technology Memo Rept 216) n.d. 77 p. Price: Microfilm-$2.00 - Photostat-$6.00
The object of the work described in this report was to develop a simple specification test for measuring the flexibility of rubber at normal and low temperatures. A compact device, flexibility meter, El, was developed which accurately measures the resistance to deformation of a ring molded from the rubber to be tested and it is concluded the flexibility meter, El, meets the theoretical requirements for a specification test for the rubber components for GWS gas masks provided wide fluctuations in resilience are not encountered.

PB L 78645. HELLE, R. H. Development of synthetic elastic gas mask head harness webbing. (Mass Institute of Technology Memo Rept 193) Nov 1945. 59 p. Price: Microfilm-$2.00 - Photostat-$4.00
The enforced reduction in the use of natural rubber in 1942 and 1943 required that a suitable replacement be developed for the natural rubber thread used in fabrication of elastic head harness webbing. This report describes the development of a satisfactory gas mask head harness webbing constructed with synthetic elastic threads. Fifteen tables and two photographs are included.

PB L 79253. HOLT, E. G. and others. Economic vulnerability of the United States - rubber-. Mar 1941. 67 p. Price: Microfilm-$2.00 - Photostat-$5.00
The report, which was prepared for the Office of the Administrator of Export Control by the Interdepartmental Committee on Rubber, shows that dependence of United States domestic economy on rubber is such as to make national policy for assuring supplies of this commodity a matter calling for immediate consideration. Recommendations for meeting this prewar emergency and for possibly greater emergencies to come are made. These include conservation, rationing, and development of synthetics.

PB L 21245-R. U. S. AERONAUTICAL BOARD. Casings; aircraft landing, nose, tail and beaching tire. (Revision of PB 21245, vol. 1, p. 1280). (Army-Navy Aeronautical Specification AN-C-55e, rev.). Dec 1946. 28 p. Price: Microfilm-$1.00 - Photostat-$2.00

PB L 21418-A3. U. S. AERONAUTICAL BOARD. Hose; low pressure flexible (with amendment no. 3, May 1947). (Army-Navy Aeronautical Specification AN-H-29a). Jun 1945. 2 p. Price: Microfilm-$1.00-Photostat-$1.00

PB L 26079-R. U. S. AERONAUTICAL BOARD. Hose; Low pressure flexible. (Revision of PB 26079). (Army-Navy Aeronautical Standard AN 885, rev.) May 1947. 1 p. Price: Microfilm - $1.00 - Photostat - $1.00

PB L 21417-A3. U. S. AERONAUTICAL BOARD. Hose; 3 braided hydraulic (with amendment no. 3, May 1947). (Army-Navy Aeronautical Specification AN-H-6b) Apr 1945. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00

STRUCTURAL ENGINEERING

PB L 67581. COOLING, L. F. Some foundation troubles with small houses. (British Commonwealth Scientific Office Rept 121-BIO-7). 1945. 28 p. Price: Microfilm-$1.00 - Photostat-$2.00
If foundations are not properly designed to suit both the structure and the soil conditions at the site, there will be cracking of the structure, which may sooner or later involve the expensive task of underpinning. The causes and cure are discussed in this paper. Sketches of various foundations are included.

PB L 79407. DUNCAN, W. J. Torsion and flexure of cylinders and tubes. (Gt Brit Aeronautical Res Committee Rept and Memo 1444; British Commonwealth Scientific Office Rept 33-83-128). Feb 1932. 38 p. Price: Microfilm-$2.00 - Photostat-$6.00
The subjects discussed in this report are the torsion of solid cylinders and of tubes, and the flexure of solid cylindrical cantilevers loaded at the tip. The report is divided into four chapters. Chapter I deals with the torsion of solid cylinders of symmetrical section, while solid cylinders of unsymmetrical section are discussed in Chapter II. Chapter III is devoted to the torsion of tubes, and the detailed analysis concerns simple tubes. Lastly, the flexure of cylindrical cantilevers is treated in Chapter IV. A summary of results is given at the beginning of each chapter. Some alternatives to the thickness parameter method are indicated in the Appendices to Chapter I and IV. Tables and sketches are included.

PB L 79375. GREAT BRITAIN. MINISTRY OF HEALTH. Reconditioning in rural areas. (British Commonwealth Scientific Office Rept 110-B1a-167). 1947. 46 p. Price: Microfilm-$1.00 - Photostat-$4.00
This is the fourth report of the Rural Housing Sub-Committee of the Central Housing Advisory Committee. Main aims are to secure that any houses reconditioned in the future with the aid of public funds shall be brought up to a standard equivalent to a new house, and to devise a long-term program insuring that all houses in rural areas which are suitable for reconditioning shall eventually be dealt with. The program is dependent on the end of general shortages in labor and materials.

PB L 80734. ILYUSHIN, A. A. The deformation of a visco-plastic solid. (David W. Taylor Model Basin Translation RMB-21). 1947. 151 p. Price: Microfilm-$4.00 - Photostat-$11.00
This subject is treated in five chapters having the following headings: 1) Basic equations of Visco-elastic flow; 2) Neighboring motions and stability of the flow of a Visco-plastic body; 3) Tension or compression of a strip and the neighboring motions; 4) Deformation of a circular cylinder, and stability of the motion; and 5) Some other problems and

applications. Tables and sketches are included. This translation was prepared by the Graduate Division of Applied Mathematics, Brown University from Uchenye Zapiski Moskovskogo Gosudarstvennogo Universiteta, Mekhanika 39, 1-81 (1940).

PB L 74814. INTERNATIONALE VEREINIGUNG FUR BRUCKENBAU, HOCHBAU, ZURICH/SWITZERLAND. Reinforced concrete constructions. (FIAT Microfilm Reel O 253, Frames 1-27) 1938. 27 f. Price: Microfilm-$1.25 - Enlargement Print-$3.00

This reel prepared by FIAT investigators in Germany consists of 3 treatises. Individual items are listed below and will be available as enlargement prints. Please include PB and frame numbers when ordering individual items. In German.

Frames	Title	Price
1-7 PB L 74814	The use of high-grade steel in reinforced concrete construction. In German.	$1.50
8-24 PB L 74814	Exclusion of bending stresses with beam and steel arch bridges. In German.	2.00
25-27 PB L 74814	Cylindrical shell structures. In German.	1.50

PB L 79126. KUHN, PAUL. The strength and stiffness of shear webs with and without lightening holes. (Natl Advisory Committee for Aeronautics Rept L-402). Jun 1942. 44 p. Price: Microfilm-$1.00 - Photostat-$3.00

This report covers nearly 200 tests made on the strength of shear webs of 24S-T aluminum alloy, with or without lightening holes. The tests were made in a jig of the single-specimen type, in which the specimen is free to collapse completely without developing diagonal tension. A reference list, tables, sketches, photographs and charts are included.

PB L 80733. LEIBENSON, L. S. Elements of the mathematical theory of plasticity. (David W. Taylor Model Basin Translation NAB-19). 1947. 156 p. Price: Microfilm-$4.00 - Photostat-$11.00

This book is a continuation of the author's "Short course in the theory of elasticity" 1942, and contains a presentation of the main results of the mathematical theory of plasticity on a level accessible to a wide technical public, the emphasis being on the derivation of the basic equations. A bibliography is included. This work was translated from the Russian by the Graduate Division of Applied Mathematics, Brown University.

*PB L 80379. MARWICK, A. H. D. and others. Technical developments in the manufacture and use of contractors' plant in Germany. (BIOS Final Rept 1174, Item 31) Sep-Oct 1945. 386 p. Price: Microfilm-$8.00 - Photostat-$26.00

A British mission was sent to Germany to investigate the manufacture and use of all types of plant employed in constructional work in Germany. This report is mainly of an exploratory nature. The following subjects are covered: Foundation construction; excavation; tractors and tractor-drawn equipment; conveyor plant and portable loaders; crushing and screening plant; concrete mixing and placing plant; cement handling and concrete pumps; road rollers; miscellaneous small tools; contractors' yards; research and roads; and standardization. Photographs, tables, and diagrams are included.

TEXTILES AND TEXTILE PRODUCTS

PB L 80750. BACKER, STANLEY. The use of acceptance testing data to substantiate specification requirements. (QM Textile Series Rept 34). May 1947. 18 p. Price: Microfilm-$1.00 - Photostat-$2.00

During World War II it was recognized that the control data available at the Army's inspection laboratory at Philadelphia formed a valuable basis for review of current specifications. The technique of analyzing these data and using them as a basis for revision of existing specification limits for physical and chemical properties of military textile materials is discussed in this report.

*PB L 79294. BELL, C. W. and others. German cotton sewing thread industry. (BIOS Final Rept 1171, Item 22, 31) n. d. 407 p. Price: Microfilm-$9.00 - Photostat-$28.00

Fifteen targets were visited by the team, including the main sewing thread makers and a number of engineering firms of direct interest to the sewing thread industry. Practically speaking the whole industry bleaches in chain form and black dyes on the beam. An outstanding feature of the industry is the very considerable amount of modernization carried out during the years, 1938, 1939 and 1940. The new Gerber dyeing machine is a considerable advance on any other roller dyeing machine hitherto available. Widespread use is made of the Niepmann machines for ball and tube banding. Most of the modern mills appear to be using paper tubes instead of wooden bobbins on twisting frames. The bulk of the report covers visits to the individual targets. Tables, photographs and diagrams are included.

*PB L 81275. GEIER, ERNEST C. Rayon weaving and throwing, Kampf and Spindler, Hilden near Düsseldorf. (FIAT Final Rept 663). Dec 1945. 3 p. Price: Mimeo-$0.25

This is one of the few concerns in the world which is completely integrated. Kampf and Spindler spin their own viscose yarn, prepare and throw (twist) it into various descriptions and finally do their own weaving. However, at present as a measure of emergency they are contemplating manufacture of dresses ready to sell to retail stores. In this report the following subjects are discussed: Products; condition of factory; production capacity; operating methods; throwing operation; warping and slashing; capping (quilling); and looms.

PB L 77826. GREAT BRITAIN. MINISTRY OF SUPPLY. Braided nylon cord for fabric attachment. (Material Specification D.T.D. 786; British Commonwealth Scientific Office Rept 118-B1-117). Dec 1946. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 80759. HAGEN, JOHN F. and LEIERHANS, JOSEPH P. Textile reconnaissance memorandum #20. Summary and recommendations. Jun 1945. 6 p. Price: Microfilm-$1.00 Photostat-$1.00

Seed flax has been used as a textile fiber extensively in Germany during the war years due to shortage of other material. A special process was worked out to prepare the flax for the cotton system of spinning which process is described in this report. The processes in the preparation of "RAMIE", and the cottonizing of bast fiber are also given. The information was obtained from the personnel of the Erst Deutsche Gesellschaft, Emmendingen, Germany. No information on machinery is given because both plants, the bleachry and spinning plant, were totally destroyed.

*PB L 79439. HAYDON, N. G. and SMITH, H. C. Coir mat and matting industry in Germany. (BIOS Final Rept 1285, Item 22). n. d. 13 p. Price: Microfilm-$1.00 - Photostat-$1.00

The object was to report on the production methods of the German coir mat and matting industry and to examine the machinery used. Eight factories were visited and a brief report of each visit is given together with a summary. Photographs of five looms are included.

PB L 70449. HORN, GUIDO, MASCHINENFABRIK, BERLIN-WEISSENSEE, GERMANY. High-speed braiding machines. (FIAT Microfilm Reel CC 229, Frames 1-20) 1944. 20 f. Price: Microfilm-$1.00 - Enlargement Print-$2.00

This reel was prepared by FIAT investigators in Germany. Individual items are listed below and will be available as enlargement prints. Please include PB and frame numbers when ordering individual items. In German.

Frames	Title	Price
1-3 PB L 70449	High-speed braiding machines. n. d. In German.	$1.50
4-8 PB L 70449	High-speed braiding machines. 1944. In German.	1.50
9-16 PB L 70449	High-speed braiding machines. n. d. In German.	1.50
17-18 PB L 70449	Bobbin brake for high-speed braiding machines. n. d. In German.	1.50
19-20 PB L 70449	Precision traverse winding frame. In German.	1.50

PB L 70449-S. HORN, GUIDO, MASCHINENFABRIK, BERLIN-WEISSENSEE, GERMANY. High-speed braiding machines. (FIAT Microfilm Reel CC 229, Frames 1-20, abstract cards) 1944. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00

Brief abstracts of the individual items on the above reel CC 229, PB 70449, prepared by FIAT personnel in Germany.

* PB L 79641. KNIGHT, A. R. and others. Continuous spinning of cuprammonium rayon at J. P. Bemberg, Wuppertal, and I.G. Farbenindustrie, Dormagen. (BIOS Final Rept 1380, Item 22). Nov 1946. 77 p. Price: Microfilm-$2.00 - Photostat-$6.00

The present report gives detailed information regarding the development of the continuous spinning system and of the latest continuous spinning machine now in the course of construction at J. P. Bemberg. It also gives details of the continuous spinning machine which was seen in operation at I. G. Farbenindustrie with an account of the mode of operation and of proposed modifications for future machines. A copy of a report by Dr. Wichert of J. P. Bemberg, information regarding relevant J. P. Bemberg patents, and drawings are appended. Several photographs and sketches also illustrate the report. Spinning of continuous filament cuprammonium rayon on the continuous system developed by J. P. Bemberg and I. G. Farbenindustrie has been described briefly in the following reports: (1) C.I.O.S. XIX-5, item 22 (PB 177, v. 1, p. 26, this Bibliography); (2) C.I.O.S. XXVIII-1, item 22 (PB 377, v. 1, p. 26); (3) B.I.O.S. 196, item 31 (PB 19265, v. 1, p. 1430); (4) B.I.O.S. 454, item 22 (PB 77709, v. 6, p. 547); and (5) B.I.O.S. 574, item 22, (PB 34729, v. 3, p.57). For a related report see also FIAT Final Report 653, PB 78266.

* PB L 78213. LASZLO, A. and others. Staple fibre tow-to-top conversion methods in Germany. (BIOS Final Rept 1096, Item 22,31). Apr 1947. 167 p. Price: Microfilm-$4.00 - Photostat-$12.00

The report describes the staple fiber tow-to-top conversion methods in Germany. The information was obtained from inspection of all German plants in the three occupation zones in Western Germany as well as from individual engineers to whom patents had been granted for staple fiber tow-to-top developments. Much detailed information is contained in this report. The investigation, is concerned however, more with trends of unfinished developments than with actual production plants. The investigators have found methods developed into successful Proto-Types which have not been known till now outside Germany, and for which no German patents had been issued by the end of the war. Part I of the report is a review of the German top making patents and patent applications. This section also contains abstracts of the most recent I.G. top making patent applications. Part 2 deals with every known method used in Germany for top making, including all available information about washing, drying, and some other processes. Part 3 consists of travel reports on the plants visited. Photographs, sketches, and diagrams illustrate the text.

* PB L 79611. LOASBY, G. and others. Interrogation of Herr Wemper, Nov. 25, 1946. (Manufacture of spinnerets (glass)). (BIOS Interrogation Rept 401). Feb 1947. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00

This report covers interrogation of Herr Wemper whose interest in the textile field was restricted to the production of spinnerettes. Informations received during the interview are recorded.

* PB L 79438. MCGILL, A. Tow-to-top (spinnband) process in German worsted industry. (BIOS Final Rept 1211, Item 22, 31). Jul-Aug 1946. 33 p. Price: Microfilm-$1.00 - Photostat-$3.00

This is a system of converting continuous rayon tows into tops by means of a tearing process between a system of rollers. Reference is made to the system developed by I. G. Farbenindustrie at Wolfen. The process had apparently been largely confined to worsted combers and spinners. The origin of the process is given and the process and machines described as well as operations etc. with conclusions. Thirteen reports on factories visited are included together with sketches showing roller arrangements.

* PB L 78267. STEADMAN, FRANK M. and others. The manufacture of paper tubes, bobbins and cones in Germany. (FIAT Final Rept 651). Mar 1947. 45 p. Price: Mimeo-$1.25

Reports the manufacture of paper tubes, bobbins and cones for the Textile Industry, contains specifications for paper, adhesives, and the most widely used items, outlines manufacturing procedure, also reports miscellaneous related items. Five appendices are included containing a list of German personnel interviewed and targets visited; a bibliography; a list of samples forwarded to Washington; and ten selected DIN standards for tubes, bobbins, and cones used by the textile industry.

* PB L 78266. TAYLOR, J. I. Cuprammonium process synthetic rayon in Germany. (FIAT Final Rept 653). Mar 1947. 17 p. Price: Mimeo-$0.50

This report reviews the processes used in the manufacture of cuprammonium rayon fibers and summarizes the significant developments in this field during the war years. The information was obtained from I. G. Dormagen and J. P. Bemberg A. G., Barmen. Six photographs illustrate the following: (1) Continuous spinning machine for cuprammonium rayon; (2) second bank of spinning funnels (rear of same machine as fig. 1); (3) washing machine; (4) tank for oil preparation with rollers; (5) system of 3 rollers behind the dryer and part of the apparatus for moistening the rollers; and (6) the winding machine. FIAT Final Report 34 (PB 1120, v. 1, p. 70, this Bibliography), entitled "Preparation of cuprammonium spinning solution and special processes at I. G. Farben, Dormagen", by G. P. Hoff and others, describes details of auxiliary processes as well as the staple process. See also BIOS Final Report 1380, item 22 entitled "Continuous spinning of cuprammonium rayon at J. P. Bemberg, Wuppertal and I. G. Farbenindustrie, Dormagen by A. R. Knight and others.

TRANSPORTATION EQUIPMENT

AERONAUTICS

Engines and Propellers

PB L 79028. BAILEY, F. J., JR. and JOHNSTON, J. FORD. Flight investigation of NACA D5 cowlings on the XP-42 airplane. I. High-inlet-velocity cowling with propeller cuffs tested in high-speed level flight. (Natl Adv Comm for Aeronautics Rept L-383). Jan 1943. 49 p. Price: Microfilm-$1.00 - Photostat-$4.00

Results are presented of a series of flight tests of the maximum speed and cooling characteristics in full-throttle level flight of the XP-42 airplane equipped with a short-nose high-inlet velocity cowling. This cowling is one of a series being tested in an effort to improve the performance and cooling characteristics of air-cooled engine installations. A bibliography, data tables, diagrams, photographs, and graphs are included.

PB L 79064. BAILEY, F. J., JR. and others. Flight investigation of the performance and cooling characteristics of a long-nose high-inlet-velocity cowling on the XP-42 airplane. (Natl Advisory Committee for Aeronautics Rept L-356). Apr 1942. 36 p. Price: Microfilm-$1.00 - Photostat-$3.00
The results are presented for a series of flight tests of the maximum speed and the cooling characteristics in high-speed level flight and in climb of the XP-42 airplane equipped with a long-nose high-inlet-velocity cowling. This cowling is the first of a series being tested in an effort to improve the performance and cooling characteristics of air-cooled engine installations. Photographs diagrams, and graphs are included.

PB L 79117. DESMOND, GERALD L. and FREITAG, ROBERT F. Working charts for the computation of propeller thrust throughout the take-off range. (Natl Advisory Committee for Aeronautics Rept W-100, AR Rept 3G26) Jul 1943. 20 p. Price: Microfilm-$1.00 - Photostat-$2.00
The data from NACA reports on tests conducted on full-scale propellers with 3155 blade design have been used to construct a set of propeller thrust charts for use in the calculation of take-off performance. By use of these charts, the thrust of modern single-and dual-rotating propellers may be easily and rapidly calculated throught the entire take-off range. A bibliography is included.

PB L 79471. ECKERT, E. High temperature gas turbine research at LFA. (AAF T-2 Rept IRE-31). Jan 1946. 8 p. Price: Microfilm-$1.00 - Photostat-$1.00
Dr. E. Eckert was head of the Thermodynamics department at the Air Research Institute, Brunswick, and has 17 years of research and design experience in the field of turbines, jet motors and thermal engines. This paper presents a report by Dr. E. Eckert on "High temperature gas turbine research" at the Air Research Institute, Brunswick.

PB L 79128. ELLERBROCK, HERMAN H. and MANN, ALVIN H. Heat-transfer tests of a steel cylinder barrel with aluminum fins of optimum proportions. (Natl Advisory Committee for Aeronautics Rept E-204). Nov 1940. 17 p. Price: Microfilm-$1.00 - Photostat-$2.00
Based on the results of tests on a large number of finned cylinders, an analysis of optimum fin proportions has been made. From this analysis it was predicted that the heat transfer of the barrels could be appreciably increased by changing the fin space from about 0.052 inch to 0.090 inch. As a result of these analyses a steel cylinder barrel with aluminum fins of the optimum spacing 0.090 inch was made and the results of tests on this cylinder are given in the present report. Photographs and plotted graphs are included.

PB L 79042. ELLERBROCK, HERMAN H., JR. Heat-transfer tests of two steel cylinder barrels with aluminum fins, manufactured by factory production method. (Natl Advisory Committee for Aeronautics Rept E-195). Aug 1940. 8 p. Price: Microfilm-$1.00 - Photostat-$1.00
This report presents the results of tests made on two engine cylinder barrels with aluminum fins. The two barrels were manufactured by a method to be used in the factory production of large numbers of engine barrels. The purpose of the test was to determine the heat-transfer coefficients and the excellence of the bonds between the aluminum fins and the aluminum base and between the aluminum base and the steel of the two barrels when manufactured by a large-volume production method. Photographs and plotted graphs are included.

PB L 81041. GOMMEL, HUGH E. Theory and tests of air-ejector compressor dynamic couple to improve supercharge stability and range. (AAF Tech Rept 5575). Apr 1947. 55 p. Price: Microfilm-$2.00 - Photostat-$4.00
This report presents the conclusions and graphs from the results of the experimental tests of various air ejector-supercharger couples conducted at Wright Field, and it includes photographs and schematic diagrams of the set up. Graphs of actual air ejector performance are shown and compared with theoretical performance calculated by the author. Also presented are the mathematical analyses of the stable requirements of the compressor alone and the compressor coupled to a stable first stage or air ejector. Photographs and sketches are included.

* PB L 77701. GREEN, J. J. and others. Visit to Aerodynamische Versuchsanstalt, Göttingen. (BIOS Final Rept 159, Item 25, 26). Aug 1946. 58 p. Price: Microfilm-$2.00 - Photostat-$4.00
This document covers the information secured by a team of British investigators in interviews with leading men of the Aerodynamische Versuchsanstalt (Aerodynamic Research Institute) in Göttingen and during the inspection of some of its parts. It deals with the Institute's work in theoretical aerodynamics and such matters as aircraft de-icing, equipment and work in various types of wind tunnels, gas turbines and turbo machines, boundary layers, turbulence and flowing motion, propellers and allied matters.

PB L 79568. GREY, W. H. and GILMAN, JEAN, JR. Characteristics of several single - and dual - rotating propellers in negative thrust. (Natl Advisory Committee for Aeronautics Rept L-634, Memo Rept L5C07) Mar 1945. 100 p. Price: Microfilm-$2.00 - Photostat-$7.00
Thrust and power characteristics of several single-and dual-rotating propellers differing in blade width and number of blades are presented for the region of negative-thrust operation from -45° to 145° blade angle. The tests herein reported are an extension of previous single- and dual-rotating propeller tests utilizing blades of Hamilton Standard 3155-6 (Clark Y section) design. The tests indicated that within reasonable accuracy it is possible to predict for a given propeller design characteristics in the negative-thrust range from known characteristics at a different activity factor. Adequate negative thrusts were indicated for extremely high positive as well as negative blade angles. For the particular selection of blade angles used in these tests, single rotation gave higher negative-thrust coefficients than dual rotation at low values of J, but at values of J higher than about 1.5, dual rotation produced higher coefficients. A photographs, a sketch and 88 curve sheets are included.

PB L 79058. HABEL, LOUIS W. and KORYCINSKI, PETER F. A comparison of three spinner-diffuser designs in an NACA D_S cowling for the Pratt and Whitney R-2800 engine. (Natl Advisory Committee for Aeronautics Rept L-579). Jun 1944. 39 p. Price: Microfilm-$1.00 - Photostat-$3.00
Tests have been conducted in the LMAL 16-foot high-speed tunnel to determine which of three spinner-diffuser designs on an NACA D_S-type cowling was the most effective in cooling a Pratt & Whitney R-2800 engine installation. The cowling as originally tested had a curved diffuser section and a relatively high inlet-velocity ratio. Two modifications were tested, both of which had straight-wall diffuser sections and lower inlet-velocity ratios than the original installation. The results of pressure-distribution studies in front of and behind each bank of cylinders are presented for a wide range of propeller-operating conditions. The cooling characteristics of the engine are presented by the National Advisory Committee for Aeronautics method of correlating engine data. A bibliography, data tables, diagrams, graphs, and photographs are included.

PB L 79290. HILLENDAHL, WESLEY H. A comparison of analytically and experimentally determined isothermal pressure losses in a heat-exchanger installation. (Natl Advisory Committee for Aeronautics Rept A-26, AR Rept 5C19)

May 1945. 38 p. Price: Microfilm-$1.00 - Photostat-$3.00
This report contains analytically and experimentally determined values of the pressure losses in a heat-exchanger installation. The analytical values of pressure loss were determined by adding together losses calculated from published data on elbows, diffusers, and straight ducts. Good agreement was obtained between the analytical and experimental values of losses in the over-all and component parts of the installation, indicating that such an analysis is practical in predicting the pressure losses in ducting systems of this type. Sketches, photographs and charts are included.

PB L 79262. JOHNSTON, J. FORD and VOGLEWEDE, T. J. Flight investigation of NACA D5 cowlings on the XP-42 airplane. III. Low-inlet-velocity cowling without fan or propeller cuffs, with axial-flow fan alone, and with two different sets of propeller cuffs. (Natl Advisory Committee for Aeronautics Rept L-508) Jan 1943. 51 p.
Price: Microfilm-$2.00 - Photostat-$4.00
The results of flight measurements of the performance and cooling characteristics of the XP-42 airplane equipped with a short-nose low-inlet-velocity cowling are given. The tests include measurements in high-speed level flight and in climb of the effects of: (1) a spinner-mounted axial-flow fan without propeller cuffs; (2) no fan or cuffs; and (3) two different sets of propeller cuffs. This cowling is one of a series being tested in an effort to improve the characteristics of radial air-cooled engine installations. A bibliography, data tables, and graphs are included.

PB L 78999. JONES, ALUN R. and RODERT, LEWIS A. Development of thermal ice-prevention equipment for the B-24D airplane. (Natl Advisory Committee for Aeronautics Rept A-35) Feb 1943. 41 p. Price: Microfilm-$1.00 - Photostat-$3.00
A thermal ice-prevention system for the B-24D airplane has been developed at the Ames Aeronautical Laboratory of the National Advisory Committee for Aeronautics in cooperation with the Materiel Center of the Army Air Forces and the Consolidated Aircraft Company. The subject report includes a description of the design and an outline of the method of design analysis. Results of performance tests of the installation are to be presented in a supplementary report. Photographs, graphs and sketches are included.

* PB L 78233. JOSEPH, P. Report on the German aero-engine industry. (BIOS Final Rept 320, Item 26) Mar 1946. 15 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is a report on the visit of British investigators to gather documentary evidence of Germany's plans, output, disposition and other factors relating to the aircraft engine industry in order to supplement information secured during the war. Such visits were made to the Daimler Benz A.G. at Stuttgart, the Bayerische Motoren Werke A.G. in Munich and the Klöckner Flugmotorenbau in Hamburg. It lists factors which are held responsible for the outstanding performance of German aircraft engines and carries information on the production of the three enterprises during the war years. A list of documents secured during the trip is appended. Production tables included.

PB L 61558. LILIENTHAL-GESELLSCHAFT FÜR LUFTFAHRTFORSCHUNG, BERLIN. Committee for aerodynamics. (Bericht A 41/2). Jul 1937. 99 p. Price: Microfilm-$2.00 - Photostat-$7.00
This ZWB publication deals with lectures given at Hannover on July 20/21, 1937 at the occasion of a meeting of German aircraft experts. Lürenbaum, W. Behrmann, Hottenrott, Kemper, H. Roelig, Steinborn, Friedrich, Jennissen, Stumpp, and Ebner reported on the elastic mounting of aircraft engines. Drawings, graphs, tables of data and photographs are included. In German.

PB L 61559. LILIENTHAL-GESELLSCHAFT FÜR LUFTFAHRTFORSCHUNG, BERLIN. Committee for aircraft engine research. (Bericht 090/008). Mar 1938. 57 p. Price: Microfilm-$2.00 - Photostat-$4.00
This ZWB publication includes reports given at Berlin on February 28 and March 1, 1938 at a session of German aircraft experts. A. Betz, C. Pfleiderer, K. Kollmann, H. Merkle, H. Perret, R. Kamps, O. Cuno, A. Franz, E. Becker, W. Friedrichs, R. Sabel, and D. Rühle discussed and lectured on superchargers and supercharged engines. Graphs, drawings and photographs are included. In German.

PB L 61556. LILIENTHAL-GESELLSCHAFT FÜR LUFTFAHRTFORSCHUNG, BERLIN. Committee for test stand noises. (Bericht A 55/1). May 1938. 23 p. Price: Microfilm-$1.00 - Photostat-$2.00
This publication contains preliminary discussions by W. Willms, W. Zeller, and F. v. Burger with regard to sound measurements on test stands. The meeting was held at Berlin on May 24, 1938. In German.

PB L 61554. LILIENTHAL-GESELLSCHAFT FÜR LUFTFAHRTFORSCHUNG, BERLIN. Committee for test stand noises. (Bericht A 57/2). Jun 1938. 31 p. Price: Microfilm-$1.00 - Photostat-$3.00
This ZWB publication consists of various reports given at Stuttgart on June 24 and June 25, 1938 at a session of representatives of German research institutions and industrial concerns. Principal speakers were W. Zeller, W. Willms, H. Berrer, F. v. Schmoller, H. Wehner, F. v. Burger, Will Binder, and L. Ruckenbauer. Graphs, drawings, and photographs are included. In German.

PB L 61560. LILIENTHAL-GESELLSCHAFT FÜR LUFTFAHRTFORSCHUNG, BERLIN. Propeller research committee. (Bericht 089/006.) Jan 1938. 47 p. Price: Microfilm-$1.00 - Photostat-$4.00
This is a ZWB publication consisting of reports given at Göttingen on Jan. 7, 1938 at a conference of German propeller scientists including A. Betz, A. Naumann, O. Walchner, F. Weinig, R. v. Chlingensperg, G. Bock, K. Beu, A. W. Quick, Ph. v. Doepp, L. Hoffmann, and W. Feucht. Physical limits and improvements of the static thrust and construction problems were discussed. Tables of data, graphs, drawings and photographs are included. In German.

PB L 79118. LOOK, BONNIE C. Effect on the performance of a turbosupercharged engine of an exhaust-gas-to-air heat exchanger for thermal ice prevention. (Natl Advisory Committee for Aeronautics Rept A-30, Memo Rept A5H23). Aug 1945. 41 p. Price: Microfilm-$1.00 - Photostat-$3.00
This report presents the results of a flight investigation to determine the effect on the performance of a turbosupercharged engine of an exhaust-gas-to-air heat exchanger installed between the engine-exhaust collector ring and the turbosupercharger. The operating characteristics of the turbosupercharger and the engine were obtained for various engine speeds from 1400 to 2300 rpm during level flight at 10,000, 17,000, and 24,000 feet pressure altitudes with the standard exhaust stack installed and with the heat exchanger in place. The effect of the heat exchanger on the turbosupercharged-engine performance is shown by a comparison of the data obtained for the two installations. A bibliography, data tables, diagrams, graphs and photographs are included.

PB L 79119. LOOK, BONNIE C. and SELNA, JAMES. Flight tests of several exhaust-gas-to-air heat exchangers in a B-17F airplane. (Natl Advisory Committee for Aeronautics

Engines and Propellers (contd)

Rept A-29) Apr 1944. 100 p. Price: Microfilm-$2.00 - Photostat-$7.00

Seven exhaust-gas-to-air heat exchangers were flight-tested at the Ames Aeronautical Laboratory of the National Advisory Committee for Aeronautics on a B-17F airplane to determine their performance characteristics and to investigate their flame-suppression qualities. The tests were conducted to secure performance data of heat exchangers which might be suitable for use in the thermal ice-prevention and cabin-heating systems of the heavy bomber-type airplanes. A bibliography, data tables, diagrams, and photographs are included.

PB L 79282. MONROE, LOUIS L. and SAARI, MARTIN J. An investigation of cowl inlets for the B-29 power-plant installation. (Natl Advisory Committee for Aeronautics Rept E-205, Memo Rept E5K30). Jan 1946. 51 p. Price: Microfilm-$2.00 - Photostat-$4.00

An investigation of five cowl-inlet configurations for the B-29 airplane was made in the NACA Cleveland altitude wind tunnel to obtain design information for improving the cowl performance. Tests were made to determine the effect of propeller spinners and increased inlet diameters on the cooling-air pressures at the cowl inlet and at the face of the engine and on the drag and the critical speed of the cowl. A bibliography, data tables, diagrams, graphs and photographs are included.

PB L 79101. NEEL, CARR B., JR. An investigation of the characteristics of a propeller alcohol feed ring. (Natl Advisory Committee for Aeronautics Rept A-50, R Bulletin 4F06). Jun 1944. 11 p. Price: Microfilm-$1.00 - Photostat-$1.00

An investigation has been conducted to compare the discharge characteristics of an alcohol feed ring and of a standard alcohol discharge nozzle when utilized to supply anti-icing alcohol to the propeller-blade feed shoes on a Curtiss-Wright C-46 cargo airplane. The investigation was conducted at the Materiel Command Ice Research Base at Minneapolis, Minn., by the National Advisory Committee for Aeronautics. Flight tests were made in dry air to determine the alcohol-flow pattern produced by each device along the propeller-blade leading edges, as well as flight tests in natural icing conditions to determine the degree of ice protection afforded by the alcohol system incorporating only the feed ring. Photographs and diagrams are included.

PB L 80608. NEWBERY, G. German propellers for aircraft and marine craft. (Interrogation of professor Tietjens on 3rd Feb. 1947). (BIOS Final Rept 1337, Item 25 & 29; Interrogation Rept 453). Feb 1947. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00

This report describes an interrogation of Professor Tietjens, who had been a lecturer at Vienna University and was reported to be writing a book on aerial and marine propellers. Professor Tietjens was unable to give information on work which had been done in Germany apart from his own limited sphere on hydro-dynamics and little useful data could be obtained.

PB L 79279. RUNCKEL, JACK F. The effect of pitch on force and moment characteristics of full-scale propellers of five solidities. (Natl Advisory Committee for Aeronautics Rept L-446). Jun 1942. 65 p. Price: Microfilm-$2.00 - Photostat-$5.00

An investigation was conducted in the NACA 20-foot propeller-research tunnel to determine the effect of variations in angle of pitch on the aerodynamic characteristics of several propeller combinations. Two-, three-, four-, and six-blade single-rotating propellers and a six-blade dual-rotating propeller were tested on a nacelle with the thrust axis pitched at angles of 0°, 5°, 10°, and 15°. The propellers, which were 10 feet in diameter, were tested at blade angles of 25° and 45°. The force and moment coefficients of the propellers were obtained for these conditions. A bibliography, diagram, photograph, and numerous graphs are included.

PB L 79001. SCHERRER, RICHARD. Flight tests of thermal ice-prevention equipment on a Lockheed 12A airplane. (Natl Advisory Committee for Aeronautics Rept A-49, AR Rept 3K10) Nov 1943. 39 p. Price: Microfilm-$1.00 - Photostat-$3.00

The development of thermal ice-prevention equipment by the National Advisory Committee for Aeronautics has been continued by the application of a heated-air ice-prevention system to a Lockheed 12A airplane. The test data indicate that thermal ice-prevention equipment is practical and that the method of utilizing the exhaust gases as a source of heat is satisfactory. Photographs, graphs and sketches are included.

PB L 79106. SCHERRER, RICHARD and RODERT, LEWIS A. Tests of thermal-electric de-icing equipment for propellers. (Natl Advisory Committee for Aeronautics Rept A-47, AR Rept 4A20) Jan 1944. 20 p. Price: Microfilm-$1.00 - Photostat-$2.00

This report covers flights made in natural icing conditions to test several designs of thermal-electric propeller de-icing blade shoes and a hub-generator design. Results of tests are given and illustrated by fifteen photographs. A satisfactory thermal design of blade shoe and a hub generator of sufficient capacity were developed.

PB L 79000. STEVENS, VICTOR I. and others. An experimental investigation of the effect of propellers used as aerodynamic brakes on stability and control. (Natl Advisory Committee for Aeronautics Rept A-19, AR Rept 5C01). Jul 1945. 98 p. Price: Microfilm-$2.00 - Photostat-$7.00

Tests were made of a model representative of a single-engine tractor-type airplane for the purpose of determining the stability and control effects of a propeller used as an aerodynamic brake. The tests were made with single- and dual-rotation propellers to show the effect of type of propeller rotation, and with positive thrust to provide basic data with which to compare the effects of negative thrust. Four configurations of the model were used to give the effects of tilting the propeller thrust axis down 5°, raising the horizontal tail, and combining both tilt and raised tail. Data table, photographs, diagram and graphs are included.

PB L 79261. STICKLE, GEORGE W. and others. The effect of streamlining the afterbody of an N.A.C.A. cowling. (Natl Advisory Committee for Aeronautics Rept L-279). Dec 1939. 20 p. Price: Microfilm-$1.00 - Photostat-$2.00

The drag and the power cost associated with the changing of the nose of a nacelle from a streamline shape to a conventional N.A.C.A. cowling shape was investigated in the N.A.C.A. 20-foot tunnel. Full-scale propellers and nacelles were used. The increment of drag associated with the change of nose shapes was found to be critically dependent on the afterbody of the nacelle. A bibliography, diagram, graphs, and photographs are included.

PB L 79289. TAUSCHEK, MAX J. and others. Nitrous oxide supercharging of an aircraft-engine cylinder. (Natl Advisory Committee for Aeronautics Rept E-199, Memo Rept E5F26). Jun 1945. 28 p. Price: Microfilm-$1.00 - Photostat-$2.00

An investigation was made to determine the performance of an aircraft-engine cylinder using nitrous oxide to provide additional supercharging. Single-cylinder tests were conducted at constant manifold pressure in which nitrous oxide was added as a gas to the inlet air to provide extra supercharging. Determinations were made of the effects of this method of supercharging on power output, cylinder-head temperature, and fuel consumption; and an evaluation was made of methods of cooling the cylinder when using nitrous oxide. A bibliography, data tables, diagrams, and graphs are included.

PB L 79038. THEODORSEN, THEODORE and STICKLE, GEORGE W. Effect of a trailing-edge extension on the characteristics

of a propeller section. (Natl Advisory Committee for Aeronautics Rept L-637, AC Rept L4121). Sep 1944. 22 p. Price: Microfilm-$1.00 - Photostat-$2.00
A convenient technical method is presented to evaluate changes in the airfoil characteristics resulting from an extension of the chord at the trailing edge of a propeller blade section. The method determines the change in the angle of zero lift, the ideal angle of attack, and the difference in these angles (upon which the design lift coefficient depends) as a function of the angle and length of the trailing edge extension. The treatment is based directly upon the thin-airfoil theory and is thus concerned only with the mean camber line of the section. Examples and detailed computations are given to illustrate the application of the method. The method is applicable to all propeller sections and is short enough to permit use in practical design. Data tables and graphs are included.

PB L 79127. TIFFORD, ARTHUR N. and WOOD, GEORGE P. Generalized equations for selection charts for heat exchangers in aircraft. (Natl Advisory Committee for Aeronautics Rept L-427). Apr 1942. 15 p.
Price: Microfilm-$1.00 - Photostat-$1.00
The equations that describe the operation of a heat exchanger - the equations for pressure drop, rate of heat transfer, and power expenditure - have been put into nondimensional, generalized form. These generalized equations can be used for constructing selection charts for various types of aircraft heat exchangers. Such charts would facilitate choice of heat-exchanger dimensions for any given set of operating conditions. A typical selection chart is presented. A bibliography is included.

PB L 79122. TIFFORD, ARTHUR N. Internally finned honeycomb radiators. (Natl Advisory Committee for Aeronautics Rept L 492). Dec 1941. 19 p.
Price: Microfilm-$1.00 - Photostat-$2.00
Calculations are made of the performance of several internally finned radiators and a comparison with the performance of conventional honeycomb radiators is made. If fins are placed inside conventional-size tubing, the hydraulic diameter of the air passages is reduced and the size and the power expenditure of the radiator are reduced. Calculations show that in a typical case the new radiator can be designed with 55 percent less volume and will require 18 percent less power expenditure than the conventional radiator dissipating the same amount of heat. If large tubes are internally finned in such a manner as to obtain the same hydraulic diameter for the air passages as is used today, the pressure drop and the power expenditure of radiators can be markedly reduced. Data tables and graphs are included.

PB L 26422-R. U. S. AERONAUTICAL BOARD. Envelope - engine protective (For O-405-9 engines). (For basic report see PB 26422, vol. 3, p. 596). (Army-Navy Aeronautical Standard Drawing AN 4115 rev.). Jan 1947. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 26403-R. U. S. AERONAUTICAL BOARD. Sleeve - hand crank starter flexible shaft casing. (For basic report see PB 26403, vol. 3, p. 596). (Army-Navy Aeronautical Standard Drawing AN 4092 rev.). Jan 1947. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 26444-R. U. S. AERONAUTICAL BOARD. Starter - aircraft inertia. (For basic report see PB 26444, vol. 3, p. 596). (Army-Navy Aeronautical Standard Drawing AN 4142 rev.). Jan 1947. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 26828-R. U. S. AERONAUTICAL BOARD. Starter installation clearance-aircraft reciprocating engine (for class A starters). (Revision of PB 26828, vol. 3, p. 661). (Army-Navy Aeronautical Standard Drawing (Design) AND 10304, rev.). Dec 1946. 1 p.
Price: Microfilm-$1.00 - Photostat-$1.00

PB L 26835-R. U. S. AERONAUTICAL BOARD. Starter installation clearance: Aircraft reciprocating engine (for class D starters). (Revision of PB 26835, vol. 3, p. 661). (Army-Navy Aeronautical Standard Drawing (Design) AND 10311, rev.). Nov 1946. 1 p.
Price: Microfilm-$1.00 - Photostat-$1.00

PB L 79414. VALENSI, J. Contra-rotating airscrew experiments for Hispano Suiza, 1939. (Gt Brit Aeronautical Res Council Rept and Memo 2051; British Commonwealth Scientific Office Rept 33-B3-142). May 1945. 32 p.
Price: Microfilm-$1.00 - Photostat-$3.00
This report is arranged in three parts. Part I - Experimental set-up; results; efficiency of the combination and charts for practical cases. Part II - conclusions, comparison with previous experiments. Part III - applications to a fighter aircraft. Thirty-two tables and two photographs are included.

Aerodynamics

PB L 79130. ABBOTT, IRA H. Interference effects of longitudinal flat plates on low-drag airfoils. (Natl Advisory Committee for Aeronautics Rept L 660). Nov 1942. 13 p. Price: Microfilm-$1.00 - Photostat-$1.00
This investigation was made to study the effects on typical airfoil sections of an intersecting flat plate normal to the span. The present tests are considered preliminary to more extensive and detailed interference investigations, which will be conducted when time permits. The methods are described and results of discussion given with conclusions. A sketch, a photograph and charts are included.

PB L 79132. ANKENBRUCK, HERMAN O. Maximum lift coefficients of airplanes based on sum of wing and tail areas. (Natl Advisory Committee for Aeronautics Rept L-556, N Bulletin L4C31). Mar 1944. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00
In the present paper, values of maximum lift coefficient based on three different areas have been computed from airplane stalling speeds in order to show representative values of maximum lift coefficient that are being reached by present-day conventional airplanes. The areas used were wing area alone, wing area plus horizontal-tail area, and wing area plus horizontal- and vertical-tail areas. The maximum lift coefficients were determined from the stalling speeds obtained for the gliding condition (power off, flaps up) and landing condition (power off, flaps down) of 10 airplanes in flight tests conducted by the NACA.

PB L 79293. BAALS, DONALD D. and RITCHIE, VIRGIL S. A simplified chart for determining Mach number and true airspeed from airspeed-indicator readings. (Natl Advisory Committee for Aeronautics Rept L-473) Mar 1943. 8 p.
Price: Microfilm-$1.00 - Photostat-$1.00
The determination of flight Mach number from measurements of indicated airspeed and pressure altitude is shown to be relatively simple and leads to direct and accurate computation of true airspeed. In this report a simplified chart is presented for determining flight Mach number and true airspeed for a range of values of indicated airspeed, pressure, altitude, and air temperature. A table of standard atmospheric values is also included.

PB L 80674. BECKER, JOHN V. Boundary-layer transition on the NACA 0012 and 23012 airfoils in the 8-foot high-

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speed wind tunnel. (Natl Advisory Committee for Aeronautics Rept L-682). Jan 1940. 38 p. Price: Microfilm-$1.00 - Photostat-$3.00

Determinations of boundary-layer transition on the N.A.C.A. 0012 and 23012 airfoils were made in the 8-foot high-speed wind tunnel over a range of Reynolds Numbers from 1,600,000 to 16,800,000. The results are of particular significance as compared with flight tests and tests in wind tunnels of relatively high turbulence because of the low turbulence in the high-speed tunnel. A comparison of the results obtained on N.A.C.A. 0012 airfoils of 2-foot and 5-foot chord at the same Reynolds Number permitted an evaluation of the effect of compressibility on transition. The local skin friction along the surface of the N.A.C.A. 0012 airfoil was measured at a Reynolds Number of 10,000,000. For all the lift coefficients at which tests were made, transition occurred in the region of estimated laminar separation at the low Reynolds Numbers and approached the point of minimum static pressure as a forward limit at the high Reynolds Numbers. The effect of compressibility on transition was slight. None of the usual parameters describing the local conditions in the boundary layer near the transition point served as an index for locating the transition point. As a consequence of the lower turbulence in the 8-foot high-speed tunnel, the transition points occurred consistently farther back along the chord than those measured in the N.A.C.A. full-scale tunnel. Graphs, photographs and bibliography included.

PB L 79081. BECKER, JOHN V. and BAALS, DONALD D. High-speed tests of a ducted body with various air-outlet openings. (Natl Adv Comm for Aeronautics Rept L-486). May 1942. 14 p. Price: Microfilm-$1.00 - Photostat-$1.00

This report describes test of a ducted body with internal flow made in the 8-foot high-speed wind tunnel for the purpose of studying the effects on external drag and on critical speed of the addition of efficient inlet and outlet openings to a basic streamline shape. A list of references, tables, sketches, photographs and charts are included.

PB L 79116. BIOT, M. A. and BISPLINGHOFF, R. L. Dynamic loads on airplane structures during landing. (Natl Advisory Committee for Aeronautics Rept W-92, AR Rept 4H10) Oct 1944. 56 p. Price: Microfilm-$2.00 - Photostat-$4.00

In this report the application of transient theory to the rational determination of dynamic loads on airplane structures during initial landing impact is discussed. Simplified procedures are described by which the distribution of the maximum attainable value of the dynamic stresses in the structure may be obtained. Illustrations of the procedure are given by numerical examples for the case of airplane wings. This indicates approximate orders of magnitude to be expected in a typical problem. The validity of the underlying simplifications and assumptions is discussed. A brief outline of the general mathematical theory of transients in undamped elastic system is presented. Tables, graphs and sketches are included.

PB L 79347. BRATT, J. B. and others. Application of a "Wattmeter" harmonic analyser to the measurement of aerodynamic damping for pitching oscillations. (Gt Brit Aeronautical Res Committee Rept and Memo 2063; British Commonwealth Scientific Office Rept 33-B3-135). May 1942. 21 p. Price: Microfilm-$1.00 - Photostat-$2.00

This report describes a method in which the modulated output from the stress-indicator is first rectified and then analyzed electrically by means of an electronic wattmeter, results being obtained in terms of meter readings. The method is sensitive and rapid, and the accuracy is much higher than that of the photographic method, while extraneous vibrations are smoothed out electrically. Tables, graphs and diagrams are included.

PB L 80681. CAHILL, JONES F. Aerodynamic data for a wing section of the Republic XF-12 airplane equipped with a double slotted flap. (Natl Advisory Committee for Aeronautics Rept L-544, Memo Rept L6A08a). Jan 1946. 23 p. Price: Microfilm-$1.00 - Photostat-$2.00

This report covers an investigation carried out in the Langley two-dimensional low-turbulence tunnel for the purpose of developing an optimum flap configuration for maximum lift on an airfoil section for the Republic XF-12 airplane equipped with a double slotted flap. Lift and flap loads were obtained at several flap deflections for two flap paths. Drag characteristics of the section with flaps retracted were also obtained. Tables and charts are included.

PB L 79004. CAMPBELL, JOHN P. and SEACORD, CHARLES L., JR. The effect of mass distribution on the lateral stability and control characteristics of an airplane, as determined by tests of a model in the free-flight tunnel. (Natl Advisory Committee for Aeronautics Rept L 388, AR Rept 3H31). Aug 1943. 36 p. Price: Microfilm-$1.00 - Photostat-$2.00

In order to verify experimentally the results of theoretical investigations and to determine the effects of the indicated stability changes on general flight behavior, an investigation was carried out in the NACA free-flight tunnel with a 1/10 scale, free-flying dynamic model loaded to represent a wide range of values of rolling and yawing moments of inertia. The test procedures are described, and calculations made to determine the theoretical stability and control characteristics of the particular model tested in order that the results obtained by theory and experiment could be correlated. A reference list, photographs, tables, sketches and charts are included.

PB L 80764. CLOUSING, LAWRENCE A. and MCAVOY, WILLIAM H. Flight measurements of the lateral control characteristics of an airplane equipped with a combination aileron-spoiler control system. Memorandum Report. (Natl Advisory for Aeronautics Rept A-68). Sep 1942. 62 p. Price: Microfilm-$2.00 - Photostat-$5.00

This report describes test flights conducted to measure the lateral-control characteristics of an airplane, equipped with a lateral-control system, in which as the flaps are lowered the ailerons droop and a gradual transition of lateral control from ailerons to spoilers takes place. The particular airplane used was also equipped with a Maxwell-type leading-edge slot. Photographs of the plane, sketches and charts are included.

PB L 79260. CZARNECKI, K. R. and NELSON, W. J. Wind-tunnel investigation of rear underslung fuselage ducts. (Natl Advisory Committee for Aeronautics Rept L-438, AR Rept 3121). Sep 1943. 67 p. Price: Microfilm-$2.00 - Photostat-$5.00

A general investigation of cooling ducts located at various positions on a model of a typical pursuit airplane has been conducted in the NACA full-scale tunnel. Test results are given in the present report for a duct located on the bottom of the fuselage with its inlet behind the leading edge of the wing. This installation is designated a rear underslung fuselage duct. Tables, photographs, sketches and charts are included.

PB L 80829. DINGEL AND KUESSNER. Contribution to non-stationary wing theory VIII: The vibrating wing of large aspect ratio. (AAF T-2 Translation 935; ZWB FB 1774). May 1947. 54 p. Price: Mimeo-$2.25

This report is a translation of PB 37259 abstracted in this Bibliography, v. 3, p. 507.

PB L 79280. DOENHOFF, ALBERT E. VON and TETERVIN, NEAL. Investigation of the variation of lift coefficient with Reynolds number at a moderate angle of attack on a low-drag airfoil. (Natl Advisory Committee for Aeronautics Rept L-661) Nov 1942. 19 p. Price: Microfilm-$1.00 - Photostat-$2.00

This report describes an investigation of the boundary layer about NACA 66,2-216, $\alpha = 0.6$, air foil section which was made in the NACA two-dimensional low-turbulence tunnel, in an attempt to find an explanation for the decreased slope of the lift curve observed for some of the low-drag sections outside

the low-drag range at low Reynolds numbers. It was found that the effect was probably associated with the formation of a small local region of separated flow near the leading edge, which decreased in size as the Reynolds number increased. Graphs and photographs are included.

PB L 79093. DRALEY, EUGENE C. A comparison at high speed of the aerodynamic merits of models of medium bombers having thickened wing roots and having wings with nacelles. (Natl Adv Comm for Aeronautics Rept L-390, AC Rept 3L03). Dec 1943. 26 p. Price: Microfilm-$1.00 - Photostat-$2.00

Models of medium-bomber designs of the Army Air Forces, Material Command, were tested in the NACA 8-foot high-speed tunnel to investigate the relative characteristics of thickened wing roots with propeller-shaft fairings and wings with nacelles. The effect of nacelle vertical location was also investigated. Incremental drag coefficients due to thickened wing roots and due to propeller-shaft fairings are presented through a Mach number range up to 0.70 at a lift coefficient of 0.10. Pressure measurements at each wing-fuselage juncture tested at Mach numbers up to about 0.60 are also presented for a lift coefficient of 0.10. Tables, sketches, photographs, and charts are included.

PB L 79569. DREXEL, ROGER E. and MCADAMS, WILLIAM H. Heat-transfer coefficients for air flowing in round tubes in rectangular ducts, and around finned cylinders. (Natl Advisory Committee for Aeronautics Rept W-108, AR Rept 4F28) Feb 1945. 52 p. Price: Microfilm-$2.00 - Photostat-$4.00

This report reviews published data and presents some new data. The available data for heat transfer to air in straight ducts of rectangular and circular cross section have been correlated in plots of Stanton number versus Reynolds number to provide a background for the study of the data for finned cylinders. Equations are recommended for both the streamline and turbulent regions, and data are presented for the transition region between turbulent and laminar flow. Average coefficients for the entire finned cylinder have been calculated. The test data cover the ranges of turbulent and laminar flow, and the intermediate transition region. The available results for each finned cylinder are correlated herein in terms of graphs of Stanton number versus Reynolds number. A list of references is included.

PB L 79404. DUNCAN, W. J. and others. Free motion of a stable glider in an atmosphere of variable density. (Gt Brit Aeronautical Res Council Rept and Memo 2061; British Commonwealth Scientific Office Rept 33-B3-119). Mar 1941. 13 p. Price: Microfilm-$1.00 - Photostat-$1.00

The topic discussed is the motion of a glider having ample "static margin" in an atmosphere where the density is a known function of altitude. It is shown that it is legitimate to simplify the problem by assuming that the aerodynamic pitching moment about the centre of mass is always zero, and for low or moderate Mach numbers this implies constant incidence and constant lift and drag coefficients. The detailed solution is obtained by a step-by-step method in which the analytical solution is used within each interval and some variables are given their mean values for the interval; in this way the number of steps required is much reduced. It is shown that the influence of the fall of density with altitude is to reduce the steepness of the glide path and to increase the glide speed above that corresponding to equilibrium. A table and charts are included.

PB L 79385. DUNCAN, W. J. Principles of the Galerkin method. (Gt Brit Aeronautical Res Committee Rept and Memo 1848; British Commonwealth Scientific Office Rept 33-B3-131). Sep 1938. 26 p. Price: Microfilm-$1.00 - Photostat-$2.00

In this report, part one discusses the connection between Rayleigh's principle and the method of Galerkin. Part two is concerned with the choice of the multipliers for use in the Galerkin process, and simple rules are given by which the multipliers can be obtained by inspection in all ordinary cases. A number of varied examples of statical and dynamical problems are given by way of illustration. In part three suggestions are made regarding practical applications of the Galerkin method and Rayleigh's principle, and the case of the flexural oscillation of a fuselage is considered in some detail. The influence of tailplane flexibility on the frequency is discussed in the Appendix. A list of references concludes the report.

PB L 80689. ECKERT, E. and KORBACHER, F. The flow thru axial turbine stages with greater blade height. (ZWB FB 1750, translation; CONLAN 59). Feb 1943. 36 p.

Price: Mimeo-$1.50

This report is a translation of FB 36133 abstracted in this Bibliography, v. 3, p. 175.

PB L 79474. ECKERT, E. R. C. Heat transmission of bodies in rapidly flowing gases. (AAF T-2 Rept IRE-46). Feb 1946. 53 p. Price: Microfilm-$2.00 - Photostat-$4.00

This report contains information received from a German scientist, Dr. E. Eckert, brought to the United States. The report was obtained by the Army Air Forces at Wright Field, Feb 28, 1946. An unheated body in a rapidly flowing gas stream takes on a temperature different from that of the gas. In this report the investigation of this temperature and the calculation of the heat transfer is considered successively. Charts and graphs are included.

*PB L 81282. EISENMANN, WALTER. Stability about the vertical and longitudinal axes of an airplane with swept wings. (FIAT Final Rept 1106). May 1947. 34 p. Price: Mimeo-$1.00

This report presents calculations for the stability about the vertical and longitudinal axes of an airplane similar to the Messerschmitt model Me 262 with (a) the wing swept forward at 45 , and (b) with wing swept back at 45 . The results are compared with the stability calculation for the actual Me 262. The calculations show that the stability coefficients are changed only slightly. However, with the swept-back wing they show an increase in the amplitudes of the rolling and yawing oscillations, especially at high altitudes and high lift coefficients. In these cases a strong tendency to "Dutch-Roll" has to be expected, which may be diminished by a decrease in the angle of dihedral. The resulting decrease in spiral stability is less annoying than the "Dutch-Roll". The airplane with the swept forward wing shows no faults for these particular stability considerations. Tables and charts are included. This report is in German.

PB L 80765. ERICKSON, ALBERT L. Wind-tunnel investigation of devices for improving the diving characteristics of airplanes. (Natl Advisory Committee for Aeronautics Rept A-66, Memo Rept 3F12). Apr 1943. 35 p.

Price: Microfilm-$1.00 - Photostat-$3.00

This report describes tests made in a 16-foot wind tunnel with a 1/6-scale model pursuit type airplane. The investigation was initiated because difficulties had been experienced with this type of airplane in recovering from high-speed dives. A photograph of the model, sketches and charts are included.

PB L 81036. EVANS, ADA and HINES, WILLIAM M. Air flow orifices for use in determining air flow during the tests of air pumps. (AAF Tech Rept 4552, rev. 1). Mar 1946. 93 p. Price: Microfilm-$2.00 - Photostat-$7.00

The charts and formulae included in this report, when used in conjunction with the appropriate orifice, provide a means of accurately measuring air flows from .2 to 1200 CFM. The information and data presented is completely general in nature and applicable to any air flow measurement problem within the range and scope presented. Diagrams and charts are included.

PB L 79358. FALKNER, V. M. and others. An experimental investigation of the effect of air-screws on the longitudinal stability of a twin-engine monoplane. (Gt Brit Aeronautical Res Council Rept and Memo 2070; British Commonwealth Scientific Office Rept 33-B3-147). Mar 1941. 27 p. Price: Microfilm-$1.00 - Photostat-$2.00
This report forms part of a comprehensive investigation of longitudinal stability based on previous work, and was undertaken in order to provide data relating to the effect on the tail contribution to longitudinal stability of the following factors in association with the slipstream: The incidence and position of the main wing relative to the body; change in nacelle position both fore and aft and up and down; angle of thrust line to wing cord; direction of propeller rotation; variation of thrust coefficient; and finally, the size and position of the tail. A table, photographs, sketches and charts are included.

PB L 79372. GILES, D. N.P.L. Mach number gauge. (Gt Brit Aeronautical Res Council Rept and Memo 2131; British Commonwealth Scientific Office Rept 33-B3-156). Jul 1945. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
This report gives a description of the National Physical Laboratory Mach number gauge giving accurate readings of Mach number at all barometric pressures. One illustration shows the general arrangement of the Mach number gauge and another the balance indicator.

PB L 79129. GILLIS, CLARENCE L. and WEIL, JOSEPH. Some notes on the effects of jet-exit design on static longitudinal stability. (Natl Advisory Committee for Aeronautics Rept L-589 Memo Rept L6D30a). May 1946. 30 p. Price: Microfilm-$1.00 - Photostat-$3.00
A number of types of jet-exit designs have been tested, some in still air and some in moving air. The results, which have at least a qualitative generality, are presented herein. If the jet exit is improperly designed, the jet may suffer a deflection on leaving the nozzle. This may result in an unpredictable and erratic variation of stability and trim with speed. A bibliography, diagrams, and graphs are included.

PB L 79276. GRAHAM, DONALD J. Tunnel-wall corrections to rolling and yawing moments due to aileron deflection in closed rectangular wind tunnels. (Natl Advisory Committee for Aeronautics Rept A-14, AR Rept 4F21). Jan 1945. 33 p. Price: Microfilm-$1.00 - Photostat-$3.00
A method is developed for calculating the tunnel-wall corrections to rolling and yawing moments due to aileron deflection on models in closed rectangular wind tunnels. Graphs are presented which permit a rapid determination of these corrections for models mounted in 7- by 10-foot or 8- by 12-foot wind tunnels. The method is so developed that the corrections may be calculated for the deflection of either aileron alone or both ailerons simultaneously. A bibliography, diagrams, and graphs are included.

PB L 79643. HARPER, CHARLES W. and WICK, BRADFORD H. A comparison of the effects of four-blade dual- and single-rotation propellers on the stability and control characteristics of a high-powered single-engine airplane. (Natl Advisory Committee for Aeronautics Rept A-43, AR Rept 4F17). Jun 1944. 45 p. Price: Microfilm-$1.00 - Photostat-$3.00
A 3/16-scale powered model of the Douglas XSB2D-1 airplane was tested with a four-blade dual-rotation propeller and a four blade single-rotation propeller. Although the results are directly applicable only to XSB2D-1 model, it is felt that they are indicative of what might be expected from a similar change in propeller type on any other high-powered single-engine airplane. The test results presented in this report are for those conditions believed to show most clearly the differences in characteristics depending on propeller type, and for each propeller similar test conditions were chosen. The plane model is shown in sketches and photographs. Results of tests are presented in 30 charts.

* PB L 77679. HELMBOLD, HEINRICH B. Physical instability in supercritical infrasonic flow. (FIAT Rept 1092). Apr 1947. 8 p. Price: Mimeo-$0.25
This paper presents a theoretical treatment of air-flow under local conditions of infra- and supersonic flow; based on previous experimental work on flow-forces and flow-moments, and pressure distribution, measured on symmetric profiles with rounded front-edge and sharp rear-edge. Deviations from the known equations of quasi-parallel flow are presented. The location and course of the vertical compression wave under increasing Mach number are followed. If the shock wave, which increases with flow-velocity, reaches sufficient magnitude, the boundary layer begins to flow counter-current, and finally there is a complete separation of the outside layer, with considerable loss in lift. Additional rear-edge shock-waves appear when the supersonic region reaches to the rear-edge of the profile. Several graphs are included. In German.

PB L 78629. HELMICK, PAUL F. Certain reports of aeronautical research prepared by Prof. Tomijiro Moriya, Tokyo Imperial University. (AAF T-2 Air Tech Intelligence Review Rept 106). Feb 1947. 48 p. Price: Microfilm-$1.00 - Photostat-$4.00
Certain original papers written by Prof. Moriya during the war were examined. Attached as appendixes to this report are translation of six original Japanese reports. The subjects are as follows: On the aerodynamic theory of an arbitrary wing section; On the thin wing theory; A method to obtain airfoil profile for a given pressure distribution; On the integration of the Biot-Savants Law for propeller; A method of calculating aerodynamic characteristics of an arbitrary wing section; A formula for calculating the practical strength of propeller blades.

PB L 79285. HOGGARD, H. PAGE, JR. Wind-tunnel investigation of control-surface characteristics. X. A 30-percent-chord plain flap with straight contour on the NACA 0015 airfoil. (Natl Advisory Committee for Aeronautics Rept L-366). Sep 1942. 14 p. Price: Microfilm-$1.00 - Photostat-$1.00
This report presents the aerodynamic characteristics of an NACA 0015 airfoil with a plain flap having a chord 30 percent of the airfoil cord (0.30 C) and a straight contour from the flap nose radius to the trailing edge. Tables, sketches, and graphs are included.

PB L 79416. HUGHES, N. J. S. Two-dimensional constant velocity ducts. (Gt Brit Aeronautical Res Council Rept and Memo 2089; British Commonwealth Scientific Office Rept 33-B3-140). Dec 1944. 23 p. Price: Microfilm-$1.00 - Photostat-$2.00
In this report the determination of the shape of a two-dimensional duct for which the velocity is constant over the inner and outer surfaces is investigated mathematically. Calculations are made for several cases for ducts which have horizontal and vertical axes of symmetry. The special cases of the constant velocity airfoil and the infinitely long duct are considered in Appendices. The application of the results to the design of wing leading edge entries is discussed. Tables and sketches are included.

PB L 79415. IRVING, H. B. and others. Notes and exploratory experiments on the aerodynamic balancing of controls. (Gt Brit Aeronautical Res Council Memo and Rept 2076; British Commonwealth Scientific Office Rept 33-B3-141). Nov 1939. 34 p. Price: Microfilm-$1.00 - Photostat-$3.00
The increase in speed and size of airplanes in recent years renders necessary a refinement of current methods of balancing control surfaces, or the introduction of some new system. This report falls naturally into two parts. The first is devoted to a general consideration of the question of balancing; the second to some experiments made on lines suggested by the considerations of the first part of the report. A bibliography and 36 figures are included.

PB L 79405. JONES, R. and BELL, A. H. Tests on an aerofoil with 20 per cent slotted flap and an auxiliary flap in the compressed air tunnel. (Gt Brit Aeronautical Res Council Rept and Memo 2109; British Commonwealth Scientific Office Rept 33-B3-121). Jun 1939. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
The tests described in this report were conducted on the Handley Paige aerofoil with 20 per cent slotted flap. The object of the experiments was to determine the effect, at different values of R, of an auxiliary flap $0.06c$ wide set at 45 deg. to the upper surface of the main wing and $0.065c$ forward of the slot. The main flap was set at 60 deg. The results are shown in plotted charts and tables.

PB L 37535-T. JORDAN. The wing flutter as a complex characteristic-value problem I: Comparison calculations on a twin-tail control surface. (AAF T-2 Translation 990; ZWB 1719). May 1947. 65 p. Price: Microfilm-$2.00 - Photostat-$5.00
The wing and tail unit flutter of an aircraft presents a complex singular mathematical problem in that it is not explicitly solvable. By means of successive approximations so-called "flutter criteria" are established as suitable partial evidence of the complete flutter equation. As a concrete example, the symmetrical bending-torsion flutter of a double boom tail unit was compared with the established flutter criteria. A complete numerical example of this method is given for explanation. A bibliography, tables, graphs and charts are included.

PB L 78622. KATTERBACK. Contributions to the non-stationary wing theory II numerical comparison of various approximation theories on the oscillating wing of large aspect ratio. (AAF T-2 Translation 943; ZWB FB 1789). Feb 1947. 33 p. Price: Microfilm-$1.00 - Photostat-$3.00
Lift coefficient calculations were made for an oscillating wing of elliptic planform for the reduced frequencies $\nu = \frac{1b}{v} = 0, 0.5, 1.0 \ldots 6.5$ using four known approximation methods. Results obtained from complex function theory were compared with strip analysis. The theory is outlined briefly and the equations used in calculations are derived. Data tables and graphs are included. For the original German report see PB 37618, vol. 3, p. 164, this bibliography.

PB L 79370. LIGHTHILL, M. J. A mathematical method of cascade design. (Gt Brit Aeronautical Res Council Rept and Memo 2104; British Commonwealth Scientific Office Rept 33-B3-157). Jun 1945. 18 p. Price: Microfilm-$1.00 - Photostat-$2.00
In an earlier report a general method of design of aerodynamic surfaces in two dimensions was described, which in this report is applied to a set of airfoils in cascade. This report, however, is self-contained and can be read independently. Tables and curve sheets are included.

PB L 61557. LILIENTHAL-GESELLSCHAFT FÜR LUFTFAHRTFORSCHUNG, BERLIN. Committee for aerodynamics. (Bericht A 25/1). Jun 1936. 60 p. Price: Microfilm-$2.00 - Photostat-$4.00
This is a ZWB publication consisting of reports given at Berlin on June 4, 1936 at a conference of aircraft specialists. H. Muttray, R. Ramshorn, R. Seiferth, and H. Doetsch reported on longitudinal stability, down wash and propeller slipstream. Graphs, drawings and photographs are included. In German.

PB L 79346. LOCK, C. N. H. and BEAVAN, J. A. Tunnel interference at compressibility speeds using the flexible walls of the rectangular high-speed tunnel. (Gt Brit Aeronautical Res Committee Rept and Memo 2005; British Commonwealth Scientific Office Rept 33-B3-134). Sep 1944. 37 p. Price: Microfilm-$1.00 - Photostat-$3.00
In this report results of various measurements made in the National Physical Laboratory, rectangular high-speed tunnel using the flexible walls are compared with theory in order to throw further light on the problem of tunnel interference at very high speeds. The dependence of the wall pressure and overall airfoil forces on the wall shapes has been investigated for two-dimensional tests of various airfoils, though most of the work relates only to the low drag section EC 1250. A diagramatic view, tables and curves are included.

PB L 79133. LOWRY, JOHN G. and others. Wind-tunnel investigation of shielded horn balances and tabs on a 0.7-scale model of XF6F vertical tail surface. (Natl Advisory Committee for Aeronautics Rept L-516, AC Rept 4C11). Mar 1944. 75 p. Price: Microfilm-$2.00 - Photostat-$5.00
An investigation was made in the LMAL 7- by 10-foot tunnel of a 0.7-scale model of the vertical tail surface of the Grumman XF6F airplane. The model was also utilized for a more general investigation of the effect on the hinge-moment characteristics of shielded horns of different chords, spans, and nose shapes and of trimming tabs of two nose shapes. An unshielded horn was tested for comparison with the shielded horn, and the results of the comparison are given. A bibliography, data tables, diagrams, graphs and photographs are included.

PB L 78631. LUDWIEG, H. Drag corrections in high-speed wind tunnels. (AAF T-2 Translation 980; ZWB FB 1955). Feb 1947. 27 p. Price: Microfilm-$1.00 - Photostat-$2.00
The displacement action of a body in the wind tunnel causes a pressure gradient in the neighborhood of the body which affects the measured drag. Therefore, a correction of the test values is necessary for compressible flow. In the present report the correction is computed for an open and closed circular threat and is compared with the wind-tunnel correction previously known for high-speed tunnels. A bibliography and several graphs are included. For the original German report see PB 37205, vol. 3, p. 816, this bibliography.

PB L 80679. MACDOUGALL, GEORGE F., JR. Tests of inverted spins in the NACA free-spinning tunnels. (Natl Advisory Committee for Aeronautics Rept L-370, AR Rept 3L02). Dec 1943. 9 p. Price: Microfilm-$1.00 - Photostat-$1.00
Results are given of inverted-spin tests of 44 airplane models in the NACA 15-foot and 20-foot free-spinning tunnels. The data indicated that spins normally were steep and recovery by rudder reversal generally was rapid. Pulling the stick back diminished the tendency for the models to spin. Deflecting ailerons and rudder together tended to prevent the spin and crossing these controls tended to retard recovery. Bibliography, tables and drawing included.

PB L 79063. McHUGH, JAMES G. and PEPPER, EDWARD. The propeller and cooling-air-flow characteristics of a twin-engine airplane model equipped with NACA D_8-type cowlings and with propellers of NACA 16-series airfoil sections. (Natl Advisory Committee for Aeronautics Rept L-538; ACR L 4120). Sep 1944. 59 p. Price: Microfilm-$2.00 - Photostat-$4.00
This report covers an investigation conducted in the NACA 19-foot pressure tunnel to determine the nacelle drag, the cowling-air flow, and the propeller characteristics of a model of a high-performance military airplane fitted with NACA D_8-type engine cowlings and propellers embodying NACA 16-series airfoil sections. The characteristics of the propellers were determined. The variation of nacelle drag and internal air flow obtained with various arrangements of cowling flaps and variable-length cowling skirts, as well as the effect of the operating propeller on the internal-flow characteristics, were also determined. A reference list, tables, sketches, photographs, charts and graphs are included.

PB L 80676. WILSON, HERBERT A., JR. and LEHR, ROBERT R. Drag and propulsive characteristics of air-cooled engine-nacelle installations for two-engine airplanes. (Natl Advisory Committee for Aeronautics Rept L-428). Dec 1940. 33 p. Price: Microfilm-$1.00 - Photostat-$3.00
Research on wing-nacelle propeller arrangements has been continued in the full-scale wind tunnel with tests on a model of a two-engine airplane provided with nacelles varying in diameter from 1.5 to 2.6 times the local wing thickness. The results show the variation of the nacelle drag with the ratio of the nacelle diameter to the wing thickness, the effects of the nacelles on aerodynamic characteristics of the airplane, and the propulsive and overall efficiencies for all the arrangements. Photographs, sketches, graphs and charts are included.

MARINE TRANSPORTATION

PB L 80871. BOWERS, W. H. The 12-inch variable pressure water tunnel propeller testing procedure. (David W. Taylor Model Basin Rept 505). Nov 1943. 28 p. Price: Microfilm-$1.00 - Photostat-$2.00
The procedure for testing model propellers in the 12-inch variable pressure water tunnel of the David Taylor Model Basin is described in detail, with special reference to the methods of measuring torque, thrust, and revolutions per minute for the propellers and water speed and pressure for the tunnel. The testing procedure for a few representative propellers is followed through in detail, giving the formulas and coefficients used and tabulating all observed and derived data. The method of making cavitation predictions for a ship is described and an example is given. Charts, tables and sketches are included.

PB L 80703. CHAIKIN, WILLIAM and COLEMAN, CHARLES H. Shipbuilding policies of the War Production Board. Jan. 1942-Nov. 1945. (CPA Historical Repts on War Administration: WPB Special Study 26). Apr 1947. 212 p. Price: Microfilm-$5.00 - Photostat-$15.00
WPB was more active in the production of merchant shipping and in the production of military types by the Maritime Commission than in direct production for the Navy. This report covers the following topics: WPB effort to influence ship production planning; shipbuilding production problems, maintaining the shipyard labor supply; modification of ship types; and end of the wartime shipbuilding program. Charts and tables are included.

PB L 80843. FRIED, WALTER. The no. 3 tank for model seaplane tests. (Stevens Institute of Technology. Expt. Towing Tank Rept 289). Oct 1945. 23 p. Price: Microfilm-$1.00 - Photostat-$2.00
A new towing tank, designated No. 3 Tank, 12 feet wide and 6 feet deep, provides additional facilities for testing models of seaplane hulls at speeds up to 60 feet per second at the Experimental Towing Tank, Stevens Institute of Technology. A new two-story building houses both the tank and offices, shop, photographic department and miscellaneous utilities. The facilities were constructed under the sponsorship of the Bureau of Aeronautics. The building and equipment are the property of the Government; the land is owned, and leased to the Government by Stevens Institute of Technology. Field description of the tank, testing equipment and its operation are included as well as ten photographs.

PB L 80870. FRIED, WALTER. A rotating arm for towing models of ships and other forms in circular paths. (David W. Taylor Model Basin Rept 299). Feb 1946. 10 p. Price: Microfilm-$1.00 - Photostat-$1.00
A "rotating arm" apparatus, installed in the maneuvering tank at the experimental towing tank, Stevens Institute of Technology, provides a means of towing models of ships and other forms in circular paths. The diameter of the circle traversed may be adjusted from ten to sixty-five feet. The speed of rotation may be adjusted from one to six revolutions per minute. Features, design, and operation of this apparatus are described in this report. A sketch and operation of this apparatus are described in this report. A sketch and two photographs are included.

PB L 80849. MARTENSEN. Brief résumé of boiler installation on the German cruiser "Prinz Eugen" and the material used in the boilers. n. d. 14 p. Price: Microfilm-$1.00 - Photostat-$1.00
The boiler installation consists of twelve boilers installed in three fire rooms arranged for closed fire room operation with four boilers in each room. Two boiler drawings and anticipated performance curves are included.

* PB L 79593. MEYER, G. A. Modern type of freighter for Far East service. (FIAT Final Rept 827). May 1947. 28 p. Price: Mimeo-$0.75
The cargo ship described in this report is the result of the experience of the North German Lloyd in Far Eastern Service. It is a very modern triple screw Diesel propelled ship of 17 knots speed. The data was collected from the remaining files in Bremen by Messrs. Bertram and Helms of the North German Lloyd and Hansa Deutsche Dampfshiff Gesellschaft. Two charts are included in Appendices 1 and 2.

PB L 82201. U. S. BUREAU OF SHIPS. Gray marine Diesels, models 64YTL and 65YTL; instruction manual. (Vol. VIII) (Reel D 7091, Frames no numbered) 1942. 231 f. Price: Microfilm-$6.75 - Enlargement print-$25.00
This microfilm reel contains an operation and maintenance manual including parts and price list, prepared by the Gray Marine Motor Co., Detroit, Mich., covering the 64YTL and 65YTL 6-cylinder Diesel engines. Subdivisions of the book concern engine specifications, service requirements, and engine detail. Drawings and photographs are included.

PB L 82200. U. S. BUREAU OF SHIPS. Instruction manuals and parts lists for Chrysler Marine Diesel engines, models M7M, M6M and P6M. (Reel D 6079, Frames not numbered) 523 f. Price: Microfilm-$7.00 - Enlargement print-$54.00
This microfilm reel contains 9 illustrated operation and maintenance manuals including parts and price lists prepared by the Chrysler Corporation, Detroit, Mich., covering 6 and 8-cylinder Chrysler marine engines. The individual manuals are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $7.00. Please include PB and part number when ordering individual items from this microfilm reel.

Part	Title	Price
1 (73 frames) PB L 82200	Instruction and parts book, M7M, 115 h.p. Chrysler Crown marine engine (6 cylinders). May 1945.	$9.00
2 (58 frames) PB L 82200	Instruction and parts book, M7M, 90 h.p. Chrysler Crown marine engine (6 cylinders). n. d.	7.00
3 (65 frames) PB L 82200	Instruction and parts book, M7M, 115 h.p. Chrysler Crown marine engine (6 cylinders). n. d.	8.00
4 (58 frames) PB L 82200	Instruction and parts book, M7M, 90 h.p. Chrysler Crown marine engine (6 cylinders) (prepared especially for engines manufactured for the Navy Dept. on Contract NKS 1616). n. d.	7.00
5 (65 frames) PB L 82200	Instruction and parts book, M6M, Chrysler Royal marine engine; after-engine No. M6-7501 (6 cylinders). Mar 1945.	8.00
6 (51 frames) PB L 82200	Instruction and parts book M6M, Chrysler Royal marine engine, prepared especially for picket	

boats built by Gar Wood, Inc. (6 cylinders). n. d. 7.00

7 (48 frames) PB L 82200 — Instruction and parts book, PCM, Chrysler Ace marine engine. 1934. 6.00

8 (53 frames) PB L 82200 — Instruction and parts book, PCM, Chrysler 6 cyl. Ace marine engine (covering engines bearing serial numbers PC 7000 to PC 10108, manufactured 1933-1940). n. d. 7.00

9 (52 frames) PB L 82200 — Instruction and parts book, PCM, 85 h.p., 6 cyl. Ace marine engine (covering after-engines bearing serial numbers PC 10109 - PC 10520, manufactured in 1941). n. d. 7.00

WATER SUPPLY, SANITATION AND PUBLIC HEALTH

PB L 78747. BLACK, HAYSE H. Japanese military water supply equipment. Apr 1946. 229 p. Price: Microfilm-$5.00 - Photostat-$16.00
This report records the results of a comprehensive survey of Japanese Army developments in the field of water supply equipment. It is not, however, limited to standard equipment, but includes factual data and evaluations of research and development of new equipment, water treatment processes, and the detection and treatment of poisoned waters. It likewise contains information as to Japanese water supply equipment manufacturing facilities and potentialities. Throughout the investigation and analysis, on which this report is based, consideration has been given to related problems of the Japanese which influenced the major decisions they made pertaining to water supply for field troops. This is a Corps of Engineers Technical and Technological Survey.

PB M 79355. CREMER, H. W. Report of the Water Pollution Research Board, with the report of the Director of Water Pollution Research, Jul 1, 1939 - Dec 31, 1945. (British Commonwealth Scientific Office Rept 25-B28-255). 1947. 81 p. Price: Microfilm-$2.00 - Photostat-$8.00
Problems and research in this field during the war years in Great Britain are described.

* PB L 78209. HAHN, H. W. Pumped storage power plants in Europe. (FIAT Final Rept 1060). Apr 1947. 64 p. Price: Mimeo-$1.75
The report reviews the field of German, Swiss and French practices in the design of pumped storage plant units. These consist of one or two water turbines, one centrifugal pump and one or two electrical units serving as motor and generator. A considerable number of pumped storage units have been installed which use cheap night current, available in surplus quantity, from steam or hydro-electric plants, to pump water into storage reservoirs. This stored hydro-energy is used at times of peak load to furnish current that cannot be produced economically by other plants. In this manner cheap night current is converted into high priced peak load current, which frequently has resulted in lowering the production cost of electric energy. Pumped storage practice, the design of pumped storage units and the main distinctive features of seven plants are described in this report. Thirty-four illustrations and three tables complete the report.

* PB L 81640. ORNSEN, O. M. Circular grit chambers. (FIAT Final Rept 1124). Jun 1947. 26 p. Price: Mimeo-$0.75
This report describes the two main types of circular grit chambers developed in Germany in recent years with detailed data about installations built of either type. It is illustrated by construction and assembly drawings, photographs and diagrams. The types are: The Blunk Grit Chamber and the Geiger Grit Chamber. Three appendices are included containing: a list of German personnel interviewed; a bibliography; and a list of twelve drawings.

PB L 74135. STADT. GAS-, WASSER- UND ELEKTRIZITÄTSWERKE, HAGEN. Construction of a municipal water supply facility. (FIAT Microfilm Reel CC 302, Frames 1-36). 1938. 36 f. Price: Microfilm-$1.25 - Enlargement Print-$4.00
This reel, prepared by FIAT investigators in Germany, contains the offer for the construction of a water supply plant for the town of Hagen in Westphalia, including specifications of the construction work, costs, working, delivery and acceptance specifications. In German.

MISCELLANEOUS

PB L 61588. ASSOCIATION FOR PLANNING AND REGIONAL RECONSTRUCTION. Factors influencing the layout of new towns. Sep 1946. 12 p. Price: Microfilm-$1.00 - Photostat-$1.00
This pamphlet is from the International Technical Congress meeting at Paris, September 16-21, 1946.

PB L 80666. ACHESON, L. K. Development of a mechanical type of ultrasonic guidance device for the blind. Summary report. (Natl Res Council. Committee on Sensory Devices Rept 47-6). Mar 1947. 14 p. Price: Microfilm-$1.00 - Photostat-$1.00
The purpose of this report is to briefly summarize the work done by the Hoover Company on the development of a mechanical type of ultrasonic guidance device for the blind. The report covers a period from Dec. 1944 to Mar. 1947. A total of 27 working models have been built to date by the Hoover Company. Six of these which are considered representative are described and illustrated in this report. A high frequency solenoid unit without gating switch is also described and illustrated.

PB L 74268. BAYREUTH, GERMANY. SCIENTIFIC LIBRARY. Various Russian publications. (FIAT Microfilm Reel D 337, Frames 8304-9102) 1930, 1938-1939. 799 f. Price: Microfilm-$6.00 - Enlargement print-$80.00
This FIAT microfilm reel contains (1) a list of research reports in various fields of science and technology; (2) a treatise on Tau-Sagys; and (3) part of a physical dictionary. The material was obviously seized in the above institute. The three individual items and the subdivisions of the first item are explained below and corresponding frames given. Enlargement prints of each item and subdivision will be available. In addition, the entire reel may be purchased in microfilm form at a price of $6.00. Please include PB and frame numbers when ordering any of the individual items or subdivisions. In Russian.

Frames	Title	Price
8304-8585 PB L 74268	Classified list of research reports in fields indicated below. By State Technical Publications Institute, Moscow. 1930. In Russian.	$29.00
8304-8332 PB L 74268	Ferrous metals. In Russian.	3.00
8333-8345 PB L 74268	Non-ferrous metals. In Russian.	1.50
8346-8389 PB L 74268	Inorganic and organic chemicals. In Russian.	4.50
8390-8404 PB L 74268	Synthetic fertilizers. In Russian.	1.50
8405-8415 PB L 74268	Automobiles and tractors. In Russian.	1.50
8416-8429 PB L 74268	Paper and leather industry. In Russian.	1.50
8430-8444 PB L 74268	Mineralogy. In Russian.	1.50
8445-8452 PB L 74268	Glass, porcelain, and glazed earthenware. In Russian.	1.50
8453-8465 PB L 74268	Petroleum and allied materials. In Russian.	1.50
8466-8469 PB L 74268	Peat. In Russian.	1.50
8470-8479 PB L 74268	Coal and slate. In Russian.	1.50
8480-8496 PB L 74268	Fuels and heating. In Russian.	2.00
8597-8535 PB L 74268	Electroindustry. In Russian.	4.00
8536-8543 PB L 74268	Lighting. In Russian.	1.50

Miscellaneous (contd)

8543-8551 PB L 74268 — Photography, motion picture technology, and optical science. In Russian. 1.50

8552-8585 PB L 74268 — Building industry. In Russian. 3.50

8586-8764 PB L 74268 — Tau-Sagyz and the ecological basis for its cultivation. By M. B. Kultiasov. 1938. In Russian. 19.00
This is a treatise on the structure, biology, and possibilities of cultivation of a plant (belonging to the species of Taraxacum) from the roots of which natural rubber is obtained.

8765-9102 PB L 74268 — Fifth volume of a physical dictionary comprising the letters T-Z. By P. N. Belikov. 1939. In Russian. 34.00

PB L 16662. BRITISH INTELLIGENCE OBJECTIVES SUB-COMMITTEE. De-classification of B.I.O.S. final reports: List No. 2. Feb 1946. 4 p. Price: Microfilm-50¢ - Photostat-$1.00

PB M 78722. CANADA. DEPARTMENT OF TRADE AND COMMERCE. VITAL STATISTICS DIVISON. Health reference book, 1946. 1947. 74 p. Price: Microfilm-$2.00 - Photostat-$5.00
This report contains the revised Dominion proposals for the establishment of a national health insurance system, and for the allocation of the projected Dominion health grants.

PB M 78714. CANADA. MEDICAL PROCUREMENT AND ASSIGNMENT BOARD. Report of the National Health Survey. 1945. 345 p. Price: Microfilm-$7.00 - Photostat-$23.00
This survey is arranged in nine parts under the following headings: Introduction, civilian medical manpower, medical schools, public health, hospital personnel and facilities, industrial medicine, war medical services, nurses, and dental services. An index map of Canada showing counties and census divisions as of 1931 is included.

PB L 73702. DEUTSCHES MUSEUM, MUNICH. German yearbooks in engineering, plastic research and sciences. (FIAT Microfilm Reel K 211, Frames 8239-8975) 1935-1942. 737 f. Price: Microfilm-$6.00 - Enlargement Print-$74.00
This reel was prepared by FIAT investigators in Germany. Individual items are listed below and will be available as enlargement prints. Please include PB and frame numbers when ordering individual items. In German.

Frames	Title	Price
8239-8392 PB L 73702	German Yearbook for the plastic industry. 1939-1940. In German.	$5.50
8393-8565 PB L 73702	German Yearbook for the plastics industry. 1941-1942. In German.	17.50
8566-8634 PB L 73702	Yearbook of the Bavarian Academy of Sciences. 1935-1936. In German.	7.00
8635-8695 PB L 73702	Yearbook of the Bavarian Academy of Sciences. 1936-1937. In German.	6.50
8696-8745 PB L 73702	Yearbook of the Bavarian Academy of Sciences. 1937-1938. In German.	5.00
8746-8786 PB L 73702	Yearbook of the Bavarian Academy of Sciences. 1938-1939. In German.	4.50
8787-8833 PB L 73702	Yearbook of the Bavarian Academy of Sciences. 1939-1940. In German.	5.00
8834-8868 PB L 73702	Yearbook of the Bavarian Academy of Sciences. 1940-1941. In German.	3.50
8869-8897 PB L 73702	Yearbook of the Bavarian Academy of Sciences. 1941-1942. In German.	3.00
8898-8928 PB L 73702	Yearbook of AEG-research. 1942. In German.	3.50
8929-8975 PB L 73702	Yearbook of AEG-research. 1940. In German.	5.00

PB L 73673. DEUTSCHES MUSEUM, MUNICH. German yearbooks in metallurgy, machinery and general science. (FIAT Microfilm Reel K 213, Frames 9982-9999 and 1-1398) 1937-1943. 1416 f. Price: Microfilm-$6.00 - Enlargement Print-$142.00
This reel was prepared by FIAT investigators in Germany. Individual items are listed below and will be available as enlargement prints. Please include PB and frame numbers when ordering individual items. In German.

Frames	Title	Price
9982-9985 PB L 73673	"Yearbook of the College of Engineering of Aachen." 1941. In German.	$1.50
9986-9999 1-195 PB L 73673	"Yearbook of the Scientific Society of Alsace-Lorraine." 1939. In German.	11.00
196-236 PB L 73673	"Yearbook of the Fuel Industry Society, Registered." 1937. In German.	4.50
237-292 PB L 73673	"Yearbook of the Fuel Industry Society, Registered." 1938. In German.	6.00
293-337 PB L 73673	"Yearbook of the Fuel Industry Society, Registered." 1939. In German.	4.50
338-418 PB L 73673	"Yearbook of the Fuel Industry Society, Registered." 1940-1941. In German.	8.50
419-623 PB L 73673	"Yearbook of metals." 1941. In German.	20.50
624-946 PB L 73673	"Yearbook of metals." 1942. In German.	32.50
947-1398 PB L 73673	"Yearbook of metals." 1943. In German.	45.50

PB L 73675. DEUTSCHES MUSEUM, MUNICH. Yearbooks for universities, plants and chemists in Germany. (FIAT Microfilm Reel K 215, Frames 1817-2623) 1938-1943. 807 f. Price: Microfilm-$6.00 - Enlargement Print-$18.00
This reel was prepared by FIAT investigators in Germany. Individual items are listed below and will be available as enlargement prints. Please include PB and frame numbers when ordering individual items. In German.

Frames	Title	Price
1817-1870 PB L 73675	Guide for German Universities. 1941. In German.	$5.50
1871-1920 PB L 73675	Guide for German Universities. 1942. In German.	5.00
1921-2108 PB L 73675	Yearbook for plants using steam. 1938-1939. In German.	19.00
2109-2238 PB L 73675	Yearbook for plants using steam. 1940. In German.	13.00
2239-2368 PB L 73675	Yearbook for plants using steam. 1941. In German.	13.00
2369-2498 PB L 73675	Yearbook for plants using steam. 1942. In German.	13.00
2499-2623 PB L 73675	Yearbook of the German chemical worker. 1943. In German.	12.50

Miscellaneous (contd)

+ PB L 78655. DINES, H. G. and others. German academic geology. (BIOS Final Rept 948, Item 21). n. d. 11 p. Price: Microfilm-$1.00 - Photostat-$1.00

A study of the geological condition in three areas of Germany was made, namely: The oil and salt fields of the German plain, the iron-ore and metal fields of the Harz border and the coal fields of the Ruhr. An outline of curricula for students in geology and paleontology is included.

PB L 73535. ERLANGEN, GERMANY, UNIVERSITY. Doctors' dissertations in technology and economics. (FIAT Microfilm Reel P 124, Frames 8859-9741) 1937-1940. 882 f. Price: Microfilm-$6.00 - Enlargement Print-$86.50

This reel was prepared by FIAT investigators in Germany. Individual items are listed below and will be available as enlargement prints. Please include PB and frame numbers when ordering individual items. In German.

Frames	Title	Price
8859-8881 PB L 73535	Sodiumpolyphosphates. Apr 21, 1939. In German.	$2.50
8882-8916 PB L 73535	The penetrability of various liquids into insect tracheae and its consequences. Mar 1938. In German.	3.50
8917-8939 PB L 73535	Contributions to transportation facilities of the lumber industry in Germany with special consideration of road vehicles. 1938. In German.	2.50
8940-8994 PB L 73535	Economic and social considerations for hydraulic structural engineers regarding German bodies of water. May 21, 1940. In German.	5.50
8995-9040 PB L 73535	The daily variation of the magnetic declination in dependance of the geomagnetic position of the point of observation. May 31, 1940. In German.	5.00
9041-9065 PB L 73535	New contributions to natural affine geometry. Feb 5, 1938. In German.	2.50
9066-9108 PB L 73535	Conditions and plan of technical propaedeutics. Sept 26, 1939. In German.	4.50
9109-9149 PB L 73535	Experiments on the influence of contact poisons on caterpillars of the Thaumatopoea Pinivora as a basis for combatting this moth species in Turkey. Jul 30, 1940. In German.	4.50
9150-9206 PB L 73535	The development of the agricultural school system in the kingdom of Saxony. Feb 21, 1939. In German.	6.00
9207-9282 PB L 73535	The public employment service in Dresden: retrospect on a 100 year development. Jul 13, 1940. In German.	8.00
9283-9330 PB L 73535	The assessment of taxes on mergers of corporations. Sept 16, 1939. In German.	5.00
9331-9379 PB L 73535	The state as seen from the view point of the budget. Dec 12, 1938. In German.	5.00
9380-9420 PB L 73535	Examination of the pattern of stresses upon an inserted hollow arch constructed of reinforced concrete with a tapered abutment and the determination of fundamental characteristic dimensions. Sept 6, 1939. In German.	4.50
9421-9474 PB L 73535	Contribution to research on the separative conditions in the production of electrolytic iron plates. Sept 7, 1939. In German.	5.50
9475-9569 PB L 73535	Contributions to the measuring of spur gears with straight involute tooth system (flank shape, gearing and circular division). May 17, 1940. In German.	9.50
9570-9646 PB L 73535	Yield and composition of mixed pine-spruce forests, ready for cutting in Latvia. Nov 1937. In German.	8.00
9647-9686 PB L 73535	The problem of self-sufficiency in the light of the gradual conception of the organic theory of economics. Mar 29, 1940. In German.	4.00
9687-9708 PB L 73535	Potentiometric determination of glucose, especially in sulfite waste liquors. Jun 10, 1939. In German.	2.50
9709-9732 PB L 73535	The strength of the sour taste of organic acids used in the candy industry. Aug 30, 1939. In German.	2.50
9733-9741 PB L 73535	Research on bread aroma. Jul 11, 1939. In German.	1.50

PB L 73535-S. ERLANGEN, GERMANY, UNIVERSITY. Doctors' dissertations in technology and economics. (FIAT Microfilm Reel P 124, Frames 8859-9741, abstract cards) 1937-1940. 20 p. Price: Microfilm- $1.00 - Photostat-$2.00

Brief abstracts of the individual items on the above reel #P 124, PB 73535, prepared by FIAT personnel in Germany.

PB L 73620. ERLANGEN, GERMANY, UNIVERSITY. Doctors' dissertations in various fields. (FIAT Microfilm Reel P 121, Frames 6192-7065) 1938-1940. 874 f. Price: Microfilm-$6.00 - Enlargement Print-$87.50

This reel was prepared by FIAT investigators in Germany. Individual items are listed below and will be available as enlargement prints. Please include PB and frame numbers when ordering individual items. In German.

Frames	Title	Price
6192-6314 PB L 73620	Investigations on wood preservatives and wood pickling. Mar 2, 1939. In German.	$12.50
6315-6334 PB L 73620	Tone color and whirl shape of a labial pipe in dependence on the design. Sept 23, 1939. In German.	2.00
6335-6400 PB L 73620	Economy of wattless current compensation in the current supply. Oct 6, 1939. In German.	7.00
6401-6448 PB L 73620	Psychotechnical investigations on efficiency estimation. May 7, 1940. In German.	5.00
6449-6459 PB L 73620	Composition of lichenins. Dec 21, 1939. In German.	1.50
6460-6487 PB L 73620	Mixtures of road tar and bitumen. Jun 13, 1940. In German.	3.00
6488-6497 PB L 73620	Molecular weight determination and vapor pressure measurement of selenium. Dec 6, 1938. In German.	1.50
6498-6510 PB L 73620	Calcium silicides and their behavior to nitrogen. Apr 26, 1938. In German.	1.50

Miscellaneous (contd)

6511-6538 PB L 73620	The toxicity of arsenical impregnating salts in closed plants and in mining. Jul 7, 1939. In German.	3.00
6539-6630 PB L 73620	Origination and development possibilities for public teletype traffic in Germany. Sept 16, 1939. In German.	9.50
6631-6654 PB L 73620	The ground-water level fluctuations observed while building the Eider dam near Nordfeld. Jan 6, 1939. In German.	2.50
6655-6665 PB L 73620	These frames are defective.	
6666-6678 PB L 73620	The generation of lighting sparks for high-frequency cinematography by a machine transmitter. Mar 30, 1940. In German.	1.50
6679-6692 PB L 73620	Investigations on diffusion and incorporation of phosphorogenic atoms in crystal phosphors. Dec 16, 1940. In German.	1.50
6693-6706 PB L 73620	Significance of negative ionization for the usability of the Geiger-Müller counter. Jan 17, 1940. In German.	1.50
6707-6736 PB L 73620	The East-Abyssinian mica deposits and their country rock. May 30, 1940. In German.	3.00
6737-6761 PB L 73620	Ground water lowering and soil dislocation processes in cap rock when the ground water is withdrawn. Sept 11, 1939. In German.	2.50
6762-6788 PB L 73620	Capacity and design of double track lines depending on location and type of railroad stations. Jul 8, 1939. In German.	3.00
6789-6830 PB L 73620	Data on the screening effect of shields against stray fields of 50-cycle alternating current. Jun 18, 1940. In German.	4.50
6831-6847 PB L 73620	Anomalous losses of energy in alpha ray dispersion. Feb 20, 1940. In German.	2.00
6848-6885 PB L 73620	These frame numbers are missing.	
6886-6926 PB L 73620	Production and sales problems of the German automobile industry. Mar 30, 1940. In German.	4.50
7009-7065 PB L 73620	Concerning the influence of paper roll braking on printing and operating of rotary printing machines. Dec 5, 1939. In German.	6.00

PB L 73620-S. ERLANGEN, GERMANY, UNIVERSITY. Doctors' dissertations in various fields. (FIAT Microfilm Reel P 121, Frames 6192-7065, abstract cards) 1938-1940. 42 p. Price: Microfilm-$1.00 - Photostat-$3.00
Brief abstracts of the individual items on the above reel, P 121, PB 73620, prepared by FIAT personnel in Germany.

PB L 73444. ERLANGEN, GERMANY, UNIVERSITY. Doctor dissertations in various fields of natural sciences. (FIAT Microfilm Reel C 258, Frames 9726-9733, 9808-9999; and 1-632) 1937-1939. 656 f. Price: Microfilm-$6.00 - Enlargement Print $66.00
This reel was prepared by FIAT investigators in Germany. Individual items are listed below and will be available as enlargement prints. Please include PB and frame numbers when ordering individual items. In German.

Frames	Title	Price
9726-9733 PB L 73444	Absolute yield of the cadmium resonance line 2288. 1938. In German.	$1.50
9808-9840 PB L 73444	Rotation of crops in the cultivated zones of Thuringen. 1939. In German.	3.50
9841-9860 PB L 73444	Bending and buckling of rectangular plates. 1939. In German.	2.00
9861-9866 PB L 73444	Investigations in the close range of rotation-parabolic reflectors. 1939. In German.	1.50
9867-9871 PB L 73444	Absorption and reflection measurements in the centimeter wave range. 1939. In German.	1.50
9872-9890 PB L 73444	High clouds. 1937. In German.	2.00
9891-9943 PB L 73444	Investigations on the possibilities for increasing the fat percentage of the milk from low-land cows. 1939. In German.	5.50
9944-9962 PB L 73444	Contribution to the plant-physiological valuation of stable manure according to the vessel-method. 1939. In German.	2.00
9963-9999 PB L 73444	Investigations on sap formation and sap flow-off in the preparation of fermented fodder with special consideration of nutrient losses. 1938. In German.	4.00
1-20 PB L 73444	Complex compounds of antimony. 1938. In German.	2.00
21-32 PB L 73444	The formation of pyridines and pyrazolines from ketones. 1939. In German.	1.50
33-67 PB L 73444	Hydrographic investigations of nutritive substances. 1937. In German.	3.50
68-161 PB L 73444	These frames are missing.	
162-170 PB L 73444	Spectrophotometric investigations of the long-periodically variable star T-Cephei. May 1939. In German.	1.50
171-180 PB L 73444	The physical phenomena of the arc discharge in its importance for spectroscopic investigation methods. 1939. In German.	1.50
181-196 PB L 73444	The synthesis of the 1,4-diketo-adipic acid and its violerical importance. 1939. In German.	2.00
197-214 PB L 73444	Simultaneous diophantine approximations in imaginary quadratic numerical bodies. Apr 13, 1939. In German.	2.00
215-286 PB L 73444	These frame numbers are missing.	
287-292 PB L 73444	The presence of vegetable sterols in teads. 1938. In German.	1.50
293-309 PB L 73444	Experiments for determining the constitution of the strychnine alkaloids. 1938. In German.	2.00
310-349 PB L 73444	The great indigenous rodents and their ways of moving. 1939. In German.	4.00

Miscellaneous (contd)

350-361 PB L 73444 — The action of the dehydrogenating enzymes of yeast. 1938. In German. 1.50

362-405 PB L 73444 — The separation tube (separation of isotopes). 1939. In German. 4.50

406-425 PB L 73444 — Hearing tests in fishes without Weber's ossicles. 1938. In German. 2.00

426-446 PB L 73444 — Hydrocoele embryonalis (dropsy of the yolk sack) in salmonoids. 1937. In German. 2.50

447-468 PB L 73444 — Unsaturated ionization currents in air and their behavior at pressure changes. 1938. In German. 2.50

469-495 PB L 73444 — Detection and determination of histamine and histadine animal and vegetable foods. 1938. In German. 3.00

497-505 PB L 73444 — Syntheses in the hydroaromatic series. 1939. In German. 1.50

506-525 PB L 73444 — Intensified calculation of intensity and polarisation in the continuous x-ray spectrum. 1938. In German. 2.00

526-557 PB L 73444 — Comparative investigations on the influence of psychic excitement on the blood sugar level in mamals and birds. 1938. In German. 3.50

558-594 PB L 73444 — A multi-dimensional generalization of the group of the double proportion. 1938. In German. 4.00

595-606 PB L 73444 — Investigations on the processes taking place in the coupling of histidine and histamine with diazonium salts. 1938. In German. 1.50

607-622 PB L 73444 — Precision measurements of the heat of vaporization of the gases O_2, H_2S, PH_3, A, COS, CH_4 and CH_3D. 1939. In German. 2.00

PB L 73444-S. ERLANGEN, GERMANY, UNIVERSITY. Doctor dissertations in various fields of natural sciences. (FIAT Microfilm Reel C 258, Frames 9725-9783; 9808-9999; 1-622, abstract cards). 1937-1939. 49 p. Price: Microfilm-$1.00 - Photostat-$4.00
Brief abstracts of the individual items on the above reel # C258, PB L 73444, prepared by FIAT personnel in Germany.

PB L 79420. FLETT, JOHN S. Geology of the Lizard and Meneage; second edition. (British Commonwealth Scientific Office Rept 160-B1-123). 1946. 227 p. Price: Microfilm-$5.00 - Photostat-$16.00
British geological map, new series, sheet 236, is explained. The area discussed is in Cornwall, England. Maps and photographs are included.

PB L 79351. GREAT BRITAIN. BOARD OF TRADE. Working party reports: Linoleum and felt base. (British Commonwealth Scientific Office Rept 27-B1-55) 1947. 59 p. Price: Microfilm-$2.00 - Photostat-$4.00
A survey of the linoleum and felt base industry in Great Britain is made with recommendations for improvements. Statistical tables are included.

PB L 80809. GREAT BRITAIN. JOINT ADVISORY COMMITTEE ON AGRICULTURAL EDUCATION ON AGRICULTURAL, AND HORTICULTURAL INSTITUTES. Agricultural and horticultural institutes. Interim report. Mar 1947. 55 p. Price: Microfilm-$2.00 - Photostat-$4.00
The Committee sets out in this report its conclusions as to the general principles on which the provision of training at Institutes should be based and outlines a program for the expansion of this provision in coming years. Appendices contain specimen syllabi.

PB L 79424. GREAT BRITAIN. MINISTRY OF AGRICULTURE AND FISHERIES. Fruit bud development, illustrated by a series of charts. (Bulletin 137). Oct 1946. 10 p. Price: Microfilm-$1.00 - Photostat-$1.00
The forty-three illustrations included in this bulletin depict the bud stages that are of importance when spraying or dusting apple, pear, plum, cherry, black currant, gooseberry and raspberry. This bulletin consists solely of botanical illustrations that hold good for all districts and all seasons. Since these illustrations are in color they will not reproduce well.

PB L 79397. GREAT BRITAIN. MINISTRY OF EDUCATION. School and life. A first enquiry into the transition from school to independent life. Report of the Central Advisory Council for Education (England). (British Commonwealth Scientific Office Rept 160-B1-114). 1947. 123 p. Price: Microfilm-$3.00 - Photostat-$9.00
"The general purpose of the enquiry will be an appreciation and criticism of existing education as a preparation for a useful and satisfying life." Subjects covered include: Home and school; neighborhood and school; employment and education; the young worker; health; and the moral factor. Photographs are included.

PB L 79340. GREAT BRITAIN. MINISTRY OF FUEL AND POWER. List of mines in Great Britain and the Isle of Man, 1945. (British Commonwealth Scientific Office Rept 9-B0-4). 1945. 298 p. Price: Microfilm-$6.00 - Photostat-$20.00
Figures given in respect of persons (including the clerical and managerial staff) employed represent the number employed in December 1945, except in cases where mines had ceased working earlier in the year. In such cases the figures relate to the number of persons normally employed when the mine was at work.

PB L 79409. GREAT BRITAIN. NAUTICAL ALMANAC OFFICE. Interpolation and allied tables. (British Commonwealth Scientific Office Rept 73-B1-16). 1947. 47 p. Price: Microfilm-$1.00 - Photostat-$4.00
These tables, taken from the Nautical Almanac for 1937, with corrections as of 1946, constitute a working manual of interpolation for those who have already an elementary theoretical knowledge of the subject.

PB L 80803. GREAT BRITAIN. ROYAL BOTANIC GARDENS. Kew bulletin no. 2, 1946. (British Commonwealth Scientific Office Rept 160-B1-135). Mar 1947. 66 p. Price: Microfilm-$2.00 - Photostat-$5.00
This is an occasional publication on botanical subjects.

PB L 80808. HUTSON, LOCKHART W. Labour requirements in the brick industry. (British Commonwealth Scientific Office Rept 121-B10-11). Sep 1946. 22 p. Price: Microfilm-$1.00 - Photostat-$2.00
The Technical Committee of the National Brick Advisory Council of Great Britain makes its report.

PB L 80807. JONES, S. and TIDESWELL, F. V. The prevention of coal dust explosions. Part I: The effect of manner of distribution of stone dust. (British Commonwealth Scientific Office Rept 18-B4-111). Mar 1947. 24 p. Price: Microfilm-$1.00 - Photostat-$2.00

The practice of general distribution of stone dust has greatly reduced but not entirely eliminated the incidence of coal-dust explosions in British mines. A brief survey is given of the experiments on which the current regulations governing the practice of stone-dusting are based. Experiments made in the galleries of the Safety in Mines Research Board Station at Buxton are described, which show (a) that when stone dust is imperfectly mixed with coal dust, more than twice as much may be required to prevent the explosion of the coal dust as when the dusts are mixed intimately, and (b) that even a thin superficial covering of coal dust is dangerous. A bibliography, photographs, and diagrams are included.

*PB L 78288. KUGLER, IDA. Effect of light on the germination of several strains of arabidopsis thaliana L. heynh. (FIAT Final Rept 1094). Apr 1947. 20 p. Price: Mimeo-$0.50

This study was carried out at the Botanical Institute of Frankfort University. Although some light-germinating seeds can be germinated in the dark by application of certain chemicals or temperature cycles, the light-germinating Arabidopsis strain Hm could not be caused to germinate in the dark. After removal or injury of the shell, however, germination took place in the dark also. Cross-breeding of light-germinating Hm and in differently germinating strains proved that not primarily the seed-shell but the inside of the seed is responsible for the ability to germinate in the dark. It is assumed that the shell is of secondary importance in that it does not permit the transmission of the antigermination catalysts which are formed during the germination in the dark of light-requiring seeds. A bibliography of 26 items is attached. In German.

PB L 80805. MACEY, H. H. and GREEN, A. T. The getting of clay with special reference to labour requirements. (British Commonwealth Scientific Office Rept 121-B10-39). Oct 1946. 34 p. Price: Microfilm-$1.00 - Photostat-$3.00

"The getting of clay" is generally defined as covering all operations included in or associated with the handling of the raw material up to the point of delivery to the grinding pans. This includes actual digging and haulage. Some fifty brick-works were visited in order to obtain data on labor requirements.

PB L 80704. MCALEER, JAMES A. Dollar-a-year and without compensation personnel policies of the War Production Board and predecessor agencies, Aug. 1939 to Nov. 1945. (CPA Historical Repts on War Administration: WPB Special Study 27). Apr 1947. 135 p. Price: Microfilm-$3.00-Photostat-$9.00

Two principal types of non-salaried appointments were used to meet the Government's emergency needs during World War II. The most important of these was the "dollar-a-year" appointmen, but somewhat similar to this was the "without compensation" (WOC) type of appointment. The latter appointee received no compensation from the Government, other than for travel and subsistence; and both the WOC and the "dollar-a-year" employee normally continued on the payroll of their respective business or institutional employers while serving the Government.

PB L 80804. MACY, H. H. and GREEN, A. T. The labour involved in the making and firing of common bricks and a summary of the total labour requirements of brickmaking. (British Commonwealth Scientific Office Rept 121-B10-40). Oct 1946. 60 p. Price: Microfilm-$2.00 - Photostat-$4.00

This British report analyzes the labor involved in the actual making of bricks by various processes, as well as the labor associated with kilns and burning.

PB L 73441. MINISTERIAL DOCUMENTS BRANCH, BERLIN. Food, feed and various animal products. (FIAT Microfilm Reel B 253, Frames 2994-3642) 1937-1945. 649 f. Price: Microfilm-$6.00 - Enlargement Print-$65.00

This reel was prepared by FIAT investigators in Germany. Individual items are listed below and will be available as enlargement prints. Please include PB and frame numbers when ordering individual items. In German.

Frames	Title	Price
2994-3004 PB L 73441	Experimental slaughtering of Danish bacon-hogs. Sept 12, 1940. In German.	$1.50
3005-3008 PB L 73441	Insufficient insulin yields and their cause with regard to the raw material. n.d. In German.	1.50
3009-3021 PB L 73441	Collection of animal by-products and waste-products during the 3rd year of war economy. n.d. In German.	1.50
3022-3025 PB L 73441	Processing of pancreatic glands and instructions for their removal and treatment. May 22, 1941. In German.	1.50
3026-3038 PB L 73441	Obtaining of hair by shearing German cattle. Jun 1, 1943. In German.	1.50
3039-3042 PB L 73441	Hearts, ovaries and testicles of cattle for medical purposes. Dec 21, 1942 and May 19, 1943. In German.	1.50
3043 PB L 73441	Fresh liver for the preparation of liver-injection preparations. Sept 29, 1943. In German.	1.50
3044-3060 PB L 73441	Collecting animal by-and waste products. Aug 23, 1943 to Aug 20, 1944. In German.	2.00
3061-3070 PB L 73441	Collecting animal by-and waste products. Oct 22, 1943. In German.	1.50
3071-3072 PB L 73441	A native source of animal protein. Apr 13, 1940. In German.	1.50
3073-3075 PB L 73441	Collection and processing of pericardia of cattle and horses for the manufacture of leather. Feb 17, 1943. In German.	1.50
3076-3078 PB L 73441	Substitute chamois cloths from cattle reticula. Dec 13, 1938. In German.	1.50
3079-3080 PB L 73441	Dehydration of meat. Mar 9, 1945. In German.	1.50
3081-3086 PB L 73441	Hear conditioning process. Sept 1, 1937. In German.	1.50
3087-3089 PB L 73441	High sugar losses. Feb 1, 1945, and Feb 7, 1945. In German.	1.50
3090-3093 PB L 73441	Balance on molasses. Oct 15, 1943. Sept 1, 1944. In German.	1.50
3094-3095 PB L 73441	Cure of a deficiency disease in hay-fed milk-cows by feeding molasses. Oct 26, 1944. In German.	1.50
3096 PB L 73441	Use of molasses as a remedy for the licking disease. Oct 3, 1944. In German.	1.50
3097 PB L 73441	Molasses for airtight sealing of green fodder silos. Nov 12, 1944. In German.	1.50
3098-3101 PB L 73441	Molasses as a remedy for the obstruction of the appendix in horses. Mar 15, 1944. In German.	1.50
3102-3104 PB L 73441	Treatment of Hinsch disease (a deficiency disease) by feeding molasses. Sept 2, 1944. In German.	1.50
3105-3108 PB L 73441	Souring of sugar beets and sugar beet leaves in mixtures. May 6, 1944. In German.	1.50

Miscellaneous (contd)

3109-3113 PB L 73441 — Europeam sugar beet cultivation and sugar supply. 1943. In German. 1.50

3114-3118 PB L 73441 — Decrease of the susceptibility to rheumatism by using sugar syrup. Aug 18, 1944. In German. 1.50

3119-3121 PB L 73441 — Replacement of pure sugar beet chips by dried and scalded chips for production of coffee substitutes. Apr 25, 1944. In German. 1.50

3123-3127 PB L 73441 — Instructions for the production and testing of "Terna"-slices. (Fodder from beet slices and molasses). 1943. In German. 1.50

3128-3133 PB L 73441 — Feeding experiments with "Terna" slices (Foodstuffs from beet slices and molasses). 1938. In German. 1.50

3134-3196 PB L 73441 — Use of fodder produced in sugar factories. 1937. In German. 6.50

3197 PB L 73441 — Process to deprive bitter mountain ash fruits of the bitterness. n.d. In German. 1.50

3198-3201 PB L 73441 — Using sugar beet leaves as vegetable. Jan 27, 1943. In German. 1.50

3202-3503 PB L 73441 — Guidebook for the fishing industry. 1940. In German. 30.50

3504 PB L 73441 — Statistics on raw material consumption and production of ethyl alcohol. Feb 9, 1945. In German. 1.50

3505-3508 PB L 73441 — Preparation of dehydrated potatoes in slices for dietary purposes. Jan 21, 1938. In German. 1.50

3509-3511 PB L 73441 — Processing methods for potatoes. Dec 10, 1941. In German. 1.50

3512-3514 PB L 73441 — Using sugar beets as vegetable. May 19, 1944. In German. 1.50

3515-3517 PB L 73441 — Prices for fresh sugar beet leaves. Aug 9, 1943. In German. 1.50

3518-3523 PB L 73441 — Production of marmalade from quick-frozen semi-processed fruits. Sept 20, 1944. In German. 1.50

3524-3526 PB L 73441 — Production and quality requirements (standard regulations) for hip products. n.d. In German. 1.50

3527-3530 PB L 73441 — Production of fruit pulp and fruit marrav. 1943. In German. 1.50

3531 PB L 73441 — Calculations of the "Feinfrost G.M.B.H." (Frozen fruit and vegetables). 1943. In German. 1.50

3532-3552 PB L 73441 — Freezing projects for frozen fruit and vegetables 1943/1944. 1944. In German. 2.50

3553-3569 PB L 73441 — Admixture of rolled potato flour to bread flour. 1939. In German. 2.00

3570-3605 PB L 73441 — Machines for the processing of fruit and grapes. n.d. In German. 4.00

3606A-3633 PB L 73441 — Potato Warehouse. 1942. In German. 3.00

3634 PB L 73441 — Quick-freezing units in the Reich. 1944. In German. 1.50

3635 PB L 73441 — The 1944/1945 European freezing project for fruit and vegetables. Apr 17, 1944. In German. 1.50

3636-3638 PB L 73441 — General test of dehydrated vegetable products of the 1942 crop. Mar 31, 1943. In German. 1.50

3639-3642 PB L 73441 — Determination of the self-ignition temperature of chaff and straw. n.d. In German. 1.50

PB L 73441-S. MINISTERIAL DOCUMENTS BRANCH, BERLIN. Feed, feed and various animal products. (FIAT Microfilm Reel B 253, Frames 2994-3642, abstract cards). 1937-1945. 55 p. Price: Microfilm-$2.00 - Photostat-$4.00
Brief abstracts of the individual items on the above reel #B 253, PB 73441, prepared by FIAT personnel in Germany.

PB M 78723. OTTAWA. DOMINION-PROVINCIAL CONFERENCE ON RECONSTRUCTION. Health, welfare and labour: Reference book. n. d. 116 p. Price: Microfilm-$3.00 - Photostat-$8.00
This reference book contains descriptive, factual material concerning various activities of Dominion and provincial governments in the field of health, welfare and labor; in the case of welfare only Old Age Pensions and Unemployment Relief have been covered. It is intended to provide a convenient source of material for further consideration of these subjects and relevant proposals.

PB L 78719. PETT, L. B. A nutrition survey among school children in British Columbia and Saskatchewan. 1947. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00
This nutrition survey is a reprint from the Canadian Medical Association Journal No. 56, 1947.

PB L 80752. RANDALL, FRANCIS E. and BAER, MELVYN, J. Survey of body size of army personnel, male and female. Work phase I: Body dimensions of army males. (QM Climatic Res Lab Rept 122). Jul 1947. 45 p. Price: Microfilm-$1.00 - Photostat $3.00
This report represents the first of a series which describe in detail the anthropometry of military males and females. Two types of considerations are presented, metric and morphological. The metric will describe body sizes; the morphological the body types. Illustrations of the measurements are included. For fourth report see PB 80751.

PB L 80751. RANDALL, FRANCIS E. Survey of body size of army personnel, male and female. Work phase IV: Body dimensions of army females. (QM Climatic Res Lab Rept 123). Jul 1947. 34 p. Price: Microfilm-$1.00 - Photostat-$3.00
This report represents the fourth of a series which describe in detail the anthropometry of military males and females. Two types of consideration are presented, metric and morphological. The metric describes body size; the morphological describes body types. For first report see PB 80752.

PB L 80909. U. S. WAR DEPARTMENT. Armed Forces induction station operations. (Tech Manual 12-221). Nov 1944. 60 p. Price: Microfilm-$2.00 - Photostat-$4.00

PB L 79479. U. S. WAR DEPARTMENT, MILITARY INTELLIGENCE DIVISION. CAPTURED PERSONNEL AND MATERIAL BRANCH. Interrogation of German scientist, Hans Mueller, at David Taylor Model Basin, April 19 and 29, 1946. May 1946. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00

Miscellaneous (contd)

Dr. Hans Müller is a former engineer of the J. M. Voith Company at Heidenheim, Germany. The subjects discussed were: a drawing of a high velocity circulation water channel prepared by Dr. Amtsberg of the Technische Hochschule, Vienna, for the J. M. Voith Company of Heidenhein; and the installation of a Voith Schneider propeller on a tug for which both the hull and propeller were designed by Dr. Müller.

PB L 80618. U. S. WAR DEPARTMENT. Kits, fingerprint. (Tech Manual 10-632). May 1945. 13 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 80899. U. S. WAR DEPARTMENT. Records, administration: Disposition of records (with Changes no. 1, Dec 5, 1945). (Tech Manual 12-259). Jul 1945. 110 p. Price: Microfilm-$3.00 - Photostat-$8.00

PB L 80582. U. S. WAR DEPARTMENT. Surveying tables. (With changes no. 1, Jul. 29, 1942; no. 2, Sep. 7, 1944). (Tech Manual 5-236). Jul 1940. 398 p. Price: Microfilm-$8.00 - Photostat-$27.00 (Available from the Supt of Docs. Washington 25, D. C. $0.40)
This technical manual contains 56 tables with a short summary of each.

PB L 74929. VIEWEG, F., & SOHN, PUBLISHERS, BRAUNSCHWEIG, GERMANY. Two publications in the fields of mathematics and medicine. (FIAT Microfilm Reel W 41, Frames 4067-4366) 1944-1946. 300 f. Price: Microfilm-$3.75 - Enlargement print-$30.00
This FIAT microfilm reel contains the reproductions of a manuscript and of proof sheets of the publications listed below. Please include PB and frame numbers when ordering enlargement prints from this microfilm reel. In German.

Frames	Title	Price
4067-4244 PB L 74929	Introduction into the calculus of matrices and its application to physics. By H. Pupke. (Preface dated 1944.) In German.	$18.00
4245-4366 PB L 74929	Neoplastic diseases. New curative ways. By P. Troch, 1946. In German.	12.50

PB L 80818. WEINSTEIN, JOSEPH. An introduction to sequential analysis. (Sig Corps Eng Lab Tech Memo M 1066). May 1947. 12 p. Price: Microfilm-$1.00 - Photostat-$1.00
Sequential analysis was developed during the war by the Statistical Research Group (SRG), a division of the Applied Mathematics Panel, National Defense Research Committee. It is the purpose of this article to offer a simple non-critical explanation of the theory and some appropriate uses of this new tool. It is expected that the efficiency of this technique will encourage broader use by research workers and engineers now that security restrictions on the subject have been removed. The theory and application of this analytic technique have been expounded in great detail by the staff of SRG and a list of its publications is included.

PATENTS

PHOTOGRAPHIC AND OPTICAL GOODS (INCLUDING PHOTOGRAPHIC PROCESSING)

PB L 73065. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Patent application drafts for optical instruments and respective correspondence. (FIAT Microfilm Reel F 40, Frames 5572-6315) 1938-1944. 1044 f. Price: Microfilm-$6.00 -Enlargement print-$104.50
This FIAT microfilm reel consists of drafts for 26 patent applications for miscellaneous optical instruments filed by the Leitz, Ernst, G.m.b.H., Wetzlar and correspondence on matters concerning these applications, such as claims, counterclaims, objections etc. between the Leitz firm on one hand and patent attorneys, the German Patent Office, inventors and other interested parties on the other hand. The patents in question are listed below. The respective groups of documents will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual groups of documents from this microfilm reel. Some of the documents have been considerably damaged by fire and may not reproduce well. In German.

Frames	Title	Price
5572-5604 PB L 73065	FORSTER, A. (Inventor). Mechanical surface testing device. Ger. patent application F 90789 IXb/42b, dated Nov 7, 1941. In German. Supplement to patent application R 108 618 IXb/42b.	$7.50
5605-5699 PB L 73065	WEISSE, E. (Inventor). Apparatus for exposing photographic positives. Ger. patent application W 103826 IXa/57a, dated Jul 2, 1938. In German.	9.50
5700-5728 PB L 73065	ROSENTHAL, D. (Inventor). Method for the production of low-reflection layers. Ger. patent application L 106795 VI/32b, dated Jan 31, 1942. In German.	3.00
5729-5775 PB L 73065	RIEDE (Inventor). Arrangement for influencing the degree to which optical systems are corrected, especially microscope objectives. Ger. patent application L 106731 IXa/42h, dated Jan 31, 1942. In German. Drawing included.	5.00
5776-5814 PB L 73065	BROSCHKE, H. (Inventor). Micrometeric hardness tester. Ger. patent application L 106779 IXb/42x, dated Feb 9, 1942. In German. Drawing and photograph. Supplement to patent application L 103601 IXb/42x.	4.00
5815-5856 PB L 73065	STÖTZLER and others (Inventors). Reading arrangement for goniometers. Ger. patent application L 106831 IXb/42c, dated Feb 14, 1942. In German. Drawings included.	4.50
5857-5880 PB L 73065	MANNCHEN (Inventor). Method for the production of low-reflection layers. Ger. patent application L 107223 VI/32b, dated Mar 19, 1942. In German.	2.50
5881-5930 PB L 73065	LEITZ, L. (Inventor). Optical joint. Ger. patent application L 107293 IXa/42h, dated Mar 25, 1942. In German. Drawing included.	5.00
5931-5974 PB L 73065	BEREK, M. and others (Inventors). Photographic objective with an arrangement for distance adjustment. Ger. patent application L 107548 IXa/57a, dated Mar 1, 1944. In German. Drawings included.	4.50
5975-5993 PB L 73065	MEYER, K. (Inventor). Power measuring device with optical means for its reading. Ger.	

patent application M 147394 IXb/42k, dated Mar 23, 1940. In German. 2.00

5994-6032 PB L 70365 BROSCHKE, H. (Inventor). Camera with an electric exposure meter. Ger. patent application L 104643 IXa/57a, dated Jun 19, 1944. In German. 4.00
Drawings included.

6033-6060 PB L 73065 MAY, E. and others (Inventors). Drive for feeding the carbon electrodes to projection arc lamps. Ger. patent application L 103914 VIIIc/21f, dated Apr 13, 1941. In German. 3.00
Drawings included.

6061-6075 PB L 73065 MAY, E. (Inventor). Adjustable drive for feeding projection arc lamps. Ger. patent application L 104855 VIIIc/21f, dated Jul 12, 1941. In German. 1.50
Drawing included.

6076-6134 PB L 73065 MAY, E. (Inventor). Illumination arrangement for projectors with an arc lamp. Ger. patent application L 105493 IXa/42h, dated Sept 27, 1941. In German. 6.00
Drawing included.

6135-6170 PB L 73065 STEIN, W. (Inventor). Camera with an exposure meter. Ger. patent application 105678 IXa/57a, dated Oct 22, 1941. In German. 4.00
Drawings included.

6171-6190 PB L 73065 FORSTER, A. (Inventor). Mechanical surface testing device. Ger. patent application F 90788 IXb/42b, dated Nov 7, 1941. In German. 2.00

6191-6233 PB L 73065 LEITZ, L. (Inventor). Split-field range-finder. Ger. patent application L 98461 IXb/42c, dated Jul 7, 1939. In German. 4.50
Drawings included.

6234-6235 PB L 73065 ZIMMERMANN, O. (Inventor). Lid for photographic objectives. Ger. patent application L 98487 IXa/57a, dated Jul 11, 1939. In German.
Burnt to illegibility and not microfilmed.

6236-6270 PB L 73065 ECKHARDT and others (Inventors). Arrangement for restoring given directions on focusing equipment or the like. Ger. patent application L 106117 IXb/42c, dated Nov 29, 1941. In German. 3.50
Drawings included.

6271-6339 PB L 73065 LEITZ, L. (Inventor). Photographic exposure meter. Ger. patent application L 98601 IXa/42h, dated Jul 24, 1939. In German. 7.00
Drawing included.

6340-6373 PB L 73065 RIEDE (Inventor). Method for producing surface layers on optically effective planes. Ger. patent application L 98937 VI/32b, dated Aug 30, 1939. In German. 3.50

6374-6395 PB L 73065 BECKER, H. (Inventor). Measuring table. Ger. patent application L 98903 IXb/42b, dated Aug 28, 1939. In German. 2.50
Supplement patent application L 98759 IXb/42b.

6396-6448 PB L 73065 LEITZ, L. (Inventor). Camera with a built-in range-finder. Ger. patent application L 99589 IXa/57a, dated Dec 4, 1939. In German. 5.50
Drawings included.

6449-6516 PB L 73065 BEREK and others (Inventors). Photographic objective. Ger. patent application L 100751 IXa/42h, dated May 6, 1940. In German. 7.00
Drawings included.

6517-6568 PB L 73065 LEITZ, L. and others (Inventors). Range-finder. Ger. patent application L 100895 IXb/42c, dated May 24, 1940. In German. 5.50
Drawings included.

6569-6615 PB L 73065 WEISSENBERG, G. (Inventor). Method of attaching thin, firmly adhering layers of silicic acid and similar compounds on surfaces of glass and other. Ger. patent application W 107325 VI/32b, dated Jun 4, 1940. In German. 5.00

PB L 73066. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Patents and patent applications for optical instruments with respective correspondence. (FIAT Microfilm Reel F 41, Frames 6617-7669) 1936-1944. 1053 f. Price: Microfilm-$6.00 - Enlargement Print-$105.50
This FIAT microfilm reel consists of 23 drafts for patent applications filed by and patents awarded to the Leitz, Ernst, G.m.b.H., Wetzlar, for miscellaneous optical instruments and correspondence on matters concerning these applications or patents, such as claims, counterclaims, objections etc. between the firm on one hand and patent attorneys, the German Patent Office, inventors and other interested parties on the other hand. The titles of the patents are listed below. The respective individual groups of documents will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual groups from this microfilm reel. In German. Some of the documents have been damaged by fire and may not reproduce well.

Frames	Title	Price
6617-6650 PB L 73066	LEITZ, E. and others. (Inventors). Plain bearing for shafts, spindles and the like. Ger. patent application L 105881 XII/42b, dated Nov 12, 1941. In German.	$3.50
6651-6682 PB L 73066	BROSCHE, H. and others (Inventors). Measuring table. Ger. patent application L 96759 IXb/42b dated Jan 5, 1939. In German. Drawings included.	3.50
6683-6738 PB L 73066	WEISSENBERG, G. (Inventor). Method of producing low-reflexion layers on glasses, metallic surfaces and the like. Ger. patent application W 107338 VI/32b, dated Jun 3, 1940. In German.	5.00
6739-6775 PB L 73066	LEITZ, L. (Inventor). Exposure measuring arrangement for photographic purposes. Ger. patent application L 101032 IXa/42h, dated Jun 11, 1940. In German.	4.00
6776-6815 PB L 73066	HEINE (Inventor). Microscope arrangement for the observation of fluorescing objects. Ger. patent application L 101063 IXa/42h, dated Jun 14, 1940. In German. Drawing included.	4.00
6816-6901 PB L 73066	HOLFELDER, H. (Inventor). Device for photographing X-ray screen images. Ger. patent application H 161327 IXa/57a, dated	

Jan 12, 1940. In German. 9.00
Drawings included.

6902-6947
PB L 73066
WEISSENBERG, G. (Inventor). Method of producing coatings on optically effective surfaces of silicon and similar oxides. Ger. patent application L 101810 VI/32b, dated Sept 13, 1940. In German. 5.00

6948-6960
PB L 73066
LEITZ, E. (Inventor). Slit-field range-finder. Ger. patent application L 101809 IXb/42c, dated Sept 13, 1940. In German. 1.50
Drawing included.

6961-6973
PB L 73066
RINKER, W. (Inventor). Arrangement for testing the mutual relationship of two axial directions. Ger. patent application L 103123 IXb/42b, dated Oct 19, 1940. In German. 1.50
Drawing included.

6974-7009
PB L 73066
LEITZ, L. and others (Inventors). Exposure meter for photographic purposes. Ger. patent application L 103354 IXa/42h, dated Feb 22, 1941. In German. 4.00
Drawings included.

7010-7082
PB L 73066
WEISSENBERG, G. (Inventor). Precipitation-free glasses. Ger. patent application W 106503 II/630, dated Feb 10, 1941. In German. 6.50

7083-7143
PB L 73066
WEISSENBERG, G. (Inventor). Method for the prevention of precipitation on surfaces. Ger. patent application W 106563 IVc/22g, dated Feb 14, 1941. In German. 6.50

7144-7159
PB L 73066
SEIBERT, A. (Inventor). Microscope for reflected light and at least partial image erection. Ger. patent application L 113153 IXa/42h, dated Jan 3, 1944. In German. 2.00
Drawing included.

7160-7171
PB L 73066
REIPERT (Inventor). Arrangement for optical recording of the readings of testing and measuring devices. Ger. patent application L 109106 IXa/57a, dated Sept 26, 1942. In German. 1.50
Drawings included.

7172-7202
PB L 73066
BROSCHKE, H. (Inventor). Micrometric hardness tester. Ger. patent application L 103601 IXb/42k, dated Mar 13, 1941. In German. 3.50
Drawing included.

7203-7211
PB L 73066
STÜTZER, R. (Inventor). Wedge-type compensator for optical devices. Ger. patent application L 108674 IXa/42h, dated Aug 10, 1942. In German. 1.50
Drawings included.

7212-7232
PB L 73066
BOLLENRATH, F. (Inventor). Measuring arrangement. Ger. patent application L 109676 IXb/421, dated Nov 23, 1942. In German. 2.50
Drawings included.

7233-7286
PB L 73066
MULCH, K. (Inventor). Illumination arrangement for projectors. Ger. patent application L 97449/42h, dated Mar 17, 1939. In German. 5.50
Drawing included.

7287-7396
PB L 73066
LÜHN, O. (Inventor). Arrangement for the control of exposure time in photographic apparatus. Ger. patent application L 95144 IXa/57a, dated Feb 7, 1938. In German. 11.00
Drawings included.

7397-7402
PB L 73066
Photographic view-finder. Ger. patent application not given, n.d. In German. 1.50
Drawings included.

7403-7412
PB L 73066
Centering joint for optical devices. Ger. patent 749 929, Dec 8, 1944. Application L 103810 IXa/42h, dated Apr 1, 1941. In German. 1.50
Drawings included.

7413-7478
PB L 73066
FRICKE (Inventor). Optical construction element. Ger. patent 697 040, Oct 19, 1940. Application L 90993 IXa/42h, dated Aug 22, 1936. In German. 7.00
Drawings included.

7479-7669
PB L 73066
ARDENNE, MANFRED VON, (Inventor). Microscope arrangement for observation in ultraviolet light. Ger. patent 748 131, Application A 86554 IXa/42h, dated Apr 14, 1938. In German. 19.50
Drawings included.

PB L 73067. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Patents and patent applications for optical instruments including respective correspondence. (FIAT Microfilm Reel F 42, Frames 7670-8366) 1935-1942. 697 f.
Price: Microfilm-$6.00 - Enlargement Print-$70.00
This FIAT microfilm reel consists of nine patents issued to and patent applications filed by the Leitz, Ernst, G.m.b.H., Wetzlar and the "Vormag" Maschinenfabrik A.G., Plauen, Vogtland for miscellaneous optical instruments and of correspondence on matters concerning these patents, such as claims, counterclaims, objections, etc. between the Leitz works on one hand and patent attorneys, the German Patent Office, inventors and other interested parties on the other hand. The titles of the patents are listed below. The respective individual groups of documents will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual groups of documents from this microfilm reel. In German. Some of the documents have been damaged by fire and may not reproduce well.

Frames	Title	Price
7670-7748 PB L 73067	PLIES, and others (Inventors). (Lenses) changing arrangement on microscope devices. Ger. patent 698 936, Nov 20, 1940. Application L 90582 IXa/42h, dated Jun 14, 1936. In German. Drawings included.	$8.00
7749-7794 PB L 73067	LEITZ, L. (Inventor). View-finder for photographic purposes. Ger. patent 699 645, Application L 93842 IXa/57a, dated Dec 18, 1937. In German. Drawings included.	5.00
7795-7842 PB L 73067	LUZ, CH. (Inventor). Photographic enlargement device. Ger. patent 699 644, Dec 3, 1940. Application L 96695 IXa/57a, dated Dec 30, 1938. In German. Drawings included.	5.00
7843-7915 PB L 73067	WURM, and others (Inventors). Motion-picture apparatus with an arresting device. Ger. patent application L 87712 IXa/57a, dated Mar 18, 1935. In German. Drawings included.	7.50

7916-7930 PB L 73067 VOMAG MASCHINENFABRIK A.G., PLAUEN, VOGTL. Reading device for tool-making machines for the observation of the position of the tool holder or work table. Ger. patent 692 997, Jun 29, 1940. Application V 35848 Ib/49a, dated Apr 18, 1939. Inventor: Weber. In German. 1.50
Drawing included.

7930-7970 PB L 73067 FRICKE (Inventor). Arrangement for precision reading of scales. Ger. patent 745 476, Jan 12, 1943. Application L 99865 IXb/42b, dated Dec 23, 1939. In German. 5.50
Drawings included.

7971-8097 PB L 73067 Camera with an automatic spring arrangement for feeding the film and operating the shutter. Ger. patent application L 94778 IXa/57a, dated Mar 16, 1942. In German. 13.00
Drawings included.

8098-8178 PB L 73067 MAY, E. (Inventor). Motion-picture projector. Ger. patent 693 156, Jul 3, 19 (?) (illegible). Application L 90920 IXa/57a, dated Aug 9, 1936. In German. 8.50
Drawings included.

8179-8366 PB L 73067 KAISCH (Inventor). Microscope. Ger. patent application L 89415 IXa/42h, dated Dec 21, 1935. In German. 19.00
Drawings included.

PB L 73068. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Patent applications for optical instruments and respective correspondence. (FIAT Microfilm Reel F 43, Frames 8367-9352) 1930-1940. 986 f. Price: Microfilm-$6.00 - Enlargement Print-$99.00
This FIAT microfilm reel consists of 14 patent applications for miscellaneous optical instruments filed by the Leitz, Ernst, G.M.B.H., Wetzlar, and that firm's correspondence with patent attorneys, the German Patent Office, inventors and other interested parties in regard to these patent applications. The titles of the patents are listed below. Individual items will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German. Some of the documents have been damaged by fire and may not reproduce well.

Frames	Title	Price
8367-8463 PB L 73068	LEITZ, L. (Inventor). Combination of a base range-finder and a telescopic view-finder. Ger. patent application L 82870 IXb/57a, dated Jan 8, 1933. In German. Drawings included.	$10.00
8464-8509 PB L 73068	STUTZER, R. (Inventor). Adjustment devices for lenses and other optical parts. Ger. patent application L 94670 IXa/42h, dated Apr 22, 1936. In German. Drawing included.	5.00
8510-8559 PB L 73068	STUTZER, R. (Inventor). Prism arrangement for two individual parallel light beams. Ger. patent application L 94758 IXa/42h, dated May 9, 1938. In German. Drawing included.	5.00
8560-8641 PB L 73068	SANGER (Inventor). Motion-picture camera. Ger. patent application L 91405 IXa/57a, dated Nov 5, 1936. In German.	8.50
8642-8687 PB L 73068	FRICKE, H. (Inventor). View-finder for photographic apparatus. Ger. patent application L 96909 IXa/57a, dated Jan 23, 1939. In German. Drawings included.	5.00
8688-8709 PB L 73068	BECKER (Inventor). Measuring table. Ger. patent application L 85953/42b, dated Jan 6, 1932. In German. Drawings included.	2.50
8710-8846 PB L 73068	ARBEIT (Inventor). Straight-sight prism. Ger. patent application L 85553 IXa/42h, dated Mar 17, 1934. In German. Drawings included.	14.00
8847-9021 PB L 73068	BARNACK, O. (Inventor). Camera with focusing by a range-finder. Ger. patent application L 23450/57a, dated Oct 18, 1930. In German. Drawings included.	17.50
9022-9077 PB L 73068	BARNACK, O. (Inventor). Focal plane shutter with curtains which do not operate simultaneously. Ger. patent application L 83198 IXa/57a, dated Feb 18, 1933. In German. Drawings included.	6.00
9078-9125 PB L 73068	BARNACK, O. (Inventor). Camera with a reflex range-finder coupled with the objective. Ger. patent application L 79646 IX/57a, dated Oct 22, 1931. In German. Drawings included.	5.00
9126-9179 PB L 73068	PAUSCHERT, T. (Inventor). Focal plane shutter with two curtains operating independently of each other. Ger. patent application L 94913 IXa/57a, dated Jun 2, 1938. In German. Drawings included.	5.50
9180-9238 PB L 73068	WAGNER, A. and others (Inventors). Focal plane shutter with two curtains operating independently of each other. Ger. patent application L 94919 IXa/57a, dated Jun 6, 1938. In German. Drawings included.	6.00
9239-9285 PB L 73068	LEITZ, L. and others (Inventors). Camera with a built-in exposure meter. Ger. patent application L 99837 IXa/57a, dated Jan 5, 1940. In German. Drawings included.	5.00
9285-9352 PB L 73068	ZIMMERMANN, O. (Inventor). Eyepiece with a wide angle of view. Ger. patent application L 94057 IXa/42h, dated Jan 22, 1938. In German. Drawings included.	7.00

PB L 73069. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Patent applications for optical instruments and respective correspondence. (FIAT Microfilm Reel F 44, Frames 9353-10076) 1932-1939. 724 f. Price: Microfilm-$6.00 - Enlargement Print-$72.50
This FIAT microfilm reel consists of patent applications for miscellaneous optical instruments filed by the Leitz, Ernst, G.m.b.H., Wetzlar, and respective correspondence of that firm with patent attorneys, the German Patent Office, inventors and other interested parties. The atents are listed below. The individual groups of documents will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German. Some of the documents have been damaged by fire and may not reproduce well.

Frames	Title	Price
9353-9386 PB L 73069	LEITZ, L. (Inventor). Camera with an electric exposure meter.	

Ger. patent application L 94788 IXa/57a, dated May 16, 1935. In German. $3.50
Drawings included.

9387-9430 PB L 73069 — RIEPERT and others (Inventors). Electric exposure meter attachable to a camera. Ger. patent application L 96620 IXa/57a, dated Dec 12, 1938. In German. 4.50
Drawings included.

9431-9479 PB L 73069 — MAY, E. (Inventor). Film feeding arrangement for a projector. Ger. patent application L 90502 IXa/57a, dated Jun 4, 1936. In German. 5.00
Drawings included.

9480-9518 PB L 73069 — MAY, E. (Inventor). Dia-arrangement on motion-picture projectors. Ger. patent application L 98012 IX/57a, dated May 19, 1939. In German. 4.00
Drawings included.

9519-9736 PB L 73069 — MODRZE, H. (Inventor). Roll film camera. Ger. patent application M 121937 IX/57a, dated Nov 26, 1932. In German. 22.00
Drawings included.

9737-9858 PB L 73069 — STÜTZER, R. (Inventor). Method for the determination of deformations. Ger. patent application L 81030 IX/42c, dated Apr 23, 1932. In German. 12.50

9859-9905 PB L 73069 — Method for the determination of mutual changes in the direction of two principal rays. Ger. patent application not given, dated Apr 13, 1932. In German. 5.00
Drawings and photographs.

9906-10045 PB L 73069 — BOLLENRATH, F. (Inventor). Measuring device (for a dilatometer). Ger. patent application B 155555 IX/421, dated May 7, 1932.
Drawings included.

10046-10076 PB L 73069 — LEITZ, L. and others (Inventors). A still or a motion-picture camera. Ger. patent application L 86830/57a, dated Oct 25, 1934. In German. 3.50
Drawings included.

MISCELLANEOUS

PB L 70433. DEUTSCHES MUSEUM, MUNICH, GERMANY. Patent specifications in various fields. (FIAT Microfilm Reel E 30, Frames 1-938) 1944. 938 f.
Price: Microfilm-$6.00 - Enlargement print-$94.00
This reel was prepared by FIAT investigators in Germany. Individual items are listed below and will be available as enlargement prints. Please include PB and frame numbers when ordering individual items. Patent numbers range from 744 201-744 579. Missing numbers are: 744 207, 744 208, 744 216, 744 253, 744 254, 744 261, 744 263, 744 267, 744 269, 744 273, 744 284, 744 302, 744 304, 744 312, 744 322, 744 334, 744 350, 744 355, 744 359, 744 363, 744 370, 744 381, 744 387, 744 396, 744 399, 744 405, 744 442, 744 505, 744 542, 744 561, 744 564, 744 571, 744 572, 744 576. In German.

Frames	Title	Price
1-6 PB L 70433	SIEMENS-SCHUCKERTWERKE A.G., BERLIN-SIEMENSSTADT. Electromagnetic coupling. Ger. patent 744 201, dated Jan 12, 1944. Application S 143200 VIIId/21d-1 dated Dec 1, 1940. Inventors: Baudry and Deeg. In German. Drawings included. (Frames 1-3 do not relate to patent)	$1.50
7-9 PB L 70433	STALTURBINE G.M.B.H., BERLIN. Rectifier system. Ger. patent 744 202, Jan 12, 1944. Application St 61999 VIIId/21d-2, dated Jun 27, 1942. Inventors: Forssell and Öfverholm. In German. Drawings included.	1.50
10-12 PB L 70433	AKTIENGESELLSCHAFT BROWN, BOVERI & CIE, BADEN, SCHWEIZ. Method for regulating speed without power loss in induction motors with Scherbius Motor generator. Ger. patent 744 203, Jan 31, 1944. Application A 96027 VIIId/21d-2, dated Jul 14, 1942. Inventor: Schrage. In German. Drawing included.	1.50
13-14 PB L 70433	LEONHARD, ADOLF (Inventor). Voltage and frequency regulation of an AC system predominantly charged by a self-controlled rectifier. Ger. patent 744 204, Jan 12, 1944. Application L 107069 VIIId/21d-2, dated Mar 7, 1942. In German.	1.50
15-17 PB L 70433	GARBE, LAHMEYER & CO A.G., AACHEN. Transformer for precision regulation by means of a contact sliding on the same branch of blank windings of n parallel insulated contact points. Ger. patent 744 205, Jan 12, 1944. Application D 77400 VIIId/21d-2, dated Mar 1, 1938. Inventor: Sieber. In German. Drawings included.	1.50
18-20 PB L 70433	SIEMENS-SCHUCKERTWERKE A.G., BERLIN-SIEMENSSTADT. Protective device for switch gear to guard against damages due to free burning short circuit arcs. Ger. patent 744 206, Jan 20, 1944. Application S 136295 VIIId/21d-3, dated Mar 1, 1939. Inventor: Estorff. In German. Drawings included.	1.50
21-23 PB L 70433	FERNSEH G.M.B.H., BERLIN-ZEHLENDORF. Arrangement for suppressing undesirable feed-back of secondary electron multipliers operating as high-frequency amplifiers. Ger. patent 744 209, Jan 12, 1944. Application F 85403 VIIIc/21g, dated Jul 29, 1938. Inventor: Flechsig. In German. Drawings included.	1.50
24-26 PB L 70433	FERNSEH G.M.B.H., BERLIN-ZEHLENDORF. Frequency multiplier with two opposite dynodes. Ger. patent 744 210, Jan 12, 1944. Application F 88090 VIIIc/21g, dated Mar 15, 1940. Inventor: Michels. In German. Drawings included.	1.50
27-29 PB L 70433	SIEMENS-REINIGER-WERKE A.G., BERLIN. Device for switching a predetermined quantity of electric power with measuring condenser used for X-ray photographs. Ger. patent 744 211, Jan 12, 1944. Application S 146700 VIIIc/21g, dated Aug 26, 1941. Inventor: Meiler. In German. Drawings included.	1.50
30-32 PB L 70433	ELECTRICITATSGESELLSCHAFT "SANITAS", BERLIN-CHARLOTTENBURG. X-ray installation with tube protecting	

housing filled with oil. Ger. patent 744 212, Jan 12, 1944. Application E 52916 VIIIc/21g, dated Aug 26, 1939. Inventors: Niemann and Schwarzer. In German. 1.50
Drawings included.

33-34
PB L 70433
KOCH & STERZEL A.G., DRESDEN. High-voltage lead in for x-ray installations. Ger. patent 744 213, Jan 12, 1944. Application K 164046 VIIIc/21g, dated Dec 24, 1933. In German. 1.50
Addition to patent 681 116
Drawings included.

35-42
PB L 70433
KOCH & STERZEL A.G., DRESDEN. Arrangement for determining maximum permissable amperage of tubes for x-ray apparatus with adjustable devices for tube voltages and milliamperes per second. Ger. patent 744 214, Apr 19, 1944. Application K 156538 VIIIc/21g, dated Jan 24, 1940. Inventor: Beger. In German. 1.50
Drawings included.

43-44
PB L 70433
I.G. FARBENINDUSTRIE A.G., FRANKFURT AM MAIN. Method for producing aminoazo compounds. Ger. patent 744 215, Nov 15, 1944. Application I 69070 IVd/22a, dated Mar 6, 1941. Inventor: Heyna. In German. 1.50

45-46
PB L 70433
I.G. FARBENINDUSTRIE A.G., FRANKFURT AM MAIN. Method for producing trisazo dyes containing one salicylic acid group. Ger. patent 744 217, Jan 12, 1944. Application I 69516 IVd/22a, dated May 1, 1941. Inventor: Diebold. In German. 1.50

47-49
PB L 70433
I.G. FARBENINDUSTRIE A.G., FRANKFURT AM MAIN. Method for producing acid dyes of the anthraquinone series. Ger. patent 744 218, Jan 20, 1944. Application I 65082 IVd/22b, dated Jul 9, 1939. Inventors: Zerweck and Heinrich. In German. 1.50

50-52
PB L 70433
I.G. FARBENINDUSTRIE A.G., FRANKFURT AM MAIN. Method for producing acid dyes of the anthraquinone series. Ger. patent 744 219, Jan 20, 1944. Application I 68490 IVd/22b, dated Dec 19, 1940. Inventors: Zerweck and Heinrich. In German. 1.50

53-54
PB L 70433
I.G. MOUSCH & CO., FRANKFURT AM MAIN. Drying substances for lacquers etc. Ger. patent 744 220, Jan 12, 1944. Application M 149075 IVc/22h, dated Nov 9, 1940. Inventor: Bauschinger. In German. 1.50

55-56
PB L 70433
LABARN, FRIEDRICH (Inventor) Putty for glazing. Ger. patent 744 221, Jan 12, 1944. Application L 109233 IVd/22i, dated Oct 16, 1942. In German. 1.50

57-58
PB L 70433
RHENANIA-OSSAG MINERALÖLWERKE A.G., HAMBURG. Employment of used, regenerated bleaching earth. Ger. patent 744 222, Nov 16, 1944. Application R 113503 IVd/22i, dated July 16, 1942. Inventor: Zerbe. In German. 1.50
Addition to patent 725 001.

59-60
PB L 70433
KOPPERS, HEINRICH, G.M.B.H., ESSEN. Contact agent for producing compressed propellant gas. Ger. patent 744 223, Jun 5, 1944. Application K 166691 VIb/26a, dated Dec 3, 1942. Inventor: Dolch. In German. 1.50

61-62
PB L 70433
PINTSCH, JULIUS, KOM. GES., BERLIN. Method for producing synthesized gas. Ger. patent 744 224, Jul 21, 1944. Application P 84975 IVb/26a, dated Oct 7, 1942. Inventor: Lohrisch. In German. 1.50
Drawing included.

63-65
PB L 70433
BJARSCH, MAX (Inventor). Method for producing dental prostheses. Ger. patent 744 225, Jan 12, 1944. Application B 196951 IXa/30b, dated Jan 30, 1942. In German. 1.50
Drawings included.

66-67
PB L 70433
WEGRICHT, KARL (Inventor) Articulator for dental operations. Ger. patent 744 226, Nov 16, 1944. Application W 111007 IXa/30b, dated May 16, 1942. In German. 1.50
Drawings included.

68
PB L 70433
WEICKEL, PHILLIPP (Inventor). Inserting device for dropping bottles. Ger. patent 744 227, Jan 12, 1944. Application W 106804 IXa/30g, dated Jan 12, 1944. In German. 1.50

69-71
PB L 70433
BERGLEIN, MARIA, GEB. OESTREICH, HAMBURG. Device for improving air. Ger. patent 744 228, Jan 12, 1944. Application B 185476 IVa/30i, dated Dec 2, 1938. In German. 1.50
Drawings included.

72-74
PB L 70433
FRIES, J.S., SOHN, FRANKFURT AM MAIN. Ingot pulling device for extrusion casting machinery. Ger. patent 744 229, Jan 12, 1944. Application F 90446 VIa/31c, dated Aug 29, 1941. Inventor: Christel. In German. 1.50

75-77
PB L 70433
DÜRENER METALLWERKE A.G., BERLIN. Method and iron mold for manufacturing plated ingots. Ger. patent 744 230, Jan 12, 1944. Application D 81492 VIa/31c, dated Nov 11, 1939. Inventor Werning. In German. 1.50

78-81
PB L 70433
SPESSARTER HOHLGLASWERKE G.M.B.H., LOHR, MAIN. Method and apparatus for blowing hollow glass bodies. Ger. patent 744 231, Jan 12, 1944. Application S 138332 VIb/32a, dated Aug 19, 1939. In German. 1.50

82-84
PB L 70433
SCHLESISCHE SPIEGELGLAS-MANUFACTUR CARL TIELSCH G.M.B.H., WALDENBURG-ALTWASSER. Method and device for manufacturing glass objects. Ger. patent 744 232, Jan 12, 1944. Application Sch 121684 VIb/32a, dated Jan 3, 1941. In German. 1.50
Drawing included.

85-91
PB L 70433
KÖCHERT, GOTTHOLD, & SOHNE, ZITTAU. Machine for cutting off equally long pieces from glass tubes. Ger. patent 744 233, Jan 20, 1944. Application K 161611 VIb/32a, dated Apr 1, 1941. Inventor: Köchert. In German. 1.50
Drawings included.

92-94
PB L 70433
PORZELLANFABRIK WEIDET, GEBR. BAUSCHER ZWEIGNIEDERLASSUNG DER LORENZ HUTSCHENREUTHER A.G. SELB, WIEDEN, OBERPFALZ.

Cover for ceramic jug with open spout. Ger. patent 744 234, Jan 12, 1944. Application P 83456 X/34f, dated Dec 3, 1941. Inventor: Achtziger. In German. 1.50
Drawings included.

95-96
PB L 70433
ANDERLE, KARASEK & CO., WIEN. Device for fastening the resting surface to the bottom of the bed or frame of the mattress. Ger. patent 744 235, Jan 12, 1944. Application A 94403 X 34g, dated Nov 4, 1941. Inventor: Sack. In German. 1.50
Drawings included.

97-98
PB L 70433
SCHNAITER, HANS (Inventor). Fitting for a detachable connection and tight contraction of furniture side pieces, etc. Ger. patent 744 236, Sept 27, 1944. Application Sch 120 946, dated Sep 1, 1940. In German. 1.50
Drawings included.

99-101
PB L 70433
MÜLLER, ADOLF (Inventor). Band saw. Ger. patent 744 237, Jan 12, 1944. Application M 152130 XII/38a, dated Oct 17, 1941. In German. 1.50

102-104
PB L 70433
FIRMA WILHELM DOSSMANN, NEU ISENBURG. Installation for elevating and screwing down transversably suspended brush rollers in powder machines for rubber plates. Ger. patent 744 238, Jan 12, 1944. Application D 82861 XII/39a, dated Jul 5, 1940. Inventor: Dossmann. In German. 1.50

105-106
PB L 70433
I.G. FARBENINDUSTRIE A.G., FRANKFURT AM MAIN. Manufacture of zinc alloys containing a large amount of iron. Ger. patent 744 239, Jan 12, 1944. Application I 69707 VI/40b, dated May 30, 1941. Inventors: Meyer and Schelling. In German. 1.50

107-108
PB L 70433
VEREINIGTE DEUTSCHE METALLWERKE A.G., FRANKFURT AM MAIN-HEDDERNHEIM. Employment of copper-zinc alloys for machinery parts undergoing mechanical and sliding stress. Ger. patent 744 240, Jan 12, 1944. Application V 36760 VIa/40b, dated Jun 9, 1940. Inventor: Lay. In German. 1.50

109-110
PB L 70433
AERODYNAMISCHE VERSUCHSANSTALT GÖTTINGEN E.V. Device for harmonic analysis and synthesis. Ger. patent 744 241, Jan 12, 1944. Application A 87475 IXb/42c, dated Jul 14, 1938. Inventor: Walz. In German. 1.50
Drawings included.

111-113
PB L 70433
THORNER, WALTHER (Inventor). Eye glasses consisting of small parallelly arranged prisms. Ger. patent 744 242, Jun 15, 1944. Application T 55929 IXa/42h, dated Jul 18, 1941. In German. 1.50

114-116
PB L 70433
ALLGEMEINE ELECTRICITÄTS GESELLSCHAFT, BERLIN. Device for determining the quality of the balancing of masses of balanced rotating bodies. Ger. patent 744 243, Jan 12, 1944. Application L1C7836 IXb/42K, dated May 14, 1942. Inventor: Moldenhauer. In German. 1.50
Drawing included.

117-119
PB L 70433
ASKANIA-WERKE A.G., BERLIN-FRIEDENAU. Drive mechanism for calculating machine. Ger. patent 744 244, Apr 25, 1944. Application A 96406 IXb/42m, dated Sept 11, 1942. Inventor: Schomann. In German. 1.50
Drawings included.

120-125
PB L 70433
DEMEULENAERE, MARCEL (Inventor). Device for handling and operating the adding mechanism of cash registers and similar machines. Ger. patent 744 245, Jan 12, 1944. Application D 80986 IXb/43a, dated Aug 8, 1939. In German. 1.50
Drawings included.

126-127
PB L 70433
MASSENBERG, WILLY (Inventor). Horse shoe. Ger. patent 744 246 n.d. Application M 155745 III/451, dated Oct 30, 1942. In German. 1.50
Drawings included.

128-129
PB L 70433
WARNER, BRUNO and SPIESS, IRMGARD, GEB. HOGREFE (Inventors). Insecticide. Ger. patent 744 247, Jan 12, 1944. Application W 110169 IVa/45-1, dated Dec 21, 1941. In German. 1.50

130-132
PB L 70433
BORGWARD, CARL F.W. (Inventor). H-12 engine. Ger. patent 744 248, Jan 12, 1944. Application B 196952 Ia/46a-4, dated Jan 30, 1942. In German. 1.50

133-134
PB L 70433
FRAMO-WERKE G.M.B.H., HALNICHEN. Lubrication for gas-operated internal combustion engines. Ger. patent 744 249, Jan 12, 1944. Application F 92149 Ia/46c-1, dated Jul 18, 1942. Inventor: Rasmussen. In German. 1.50
Drawing included.

135-137
PB L 70433
DAIMLER-BENZ A.G., STUTTGART-UNTERTÜRKHEIM. Installation for eliminating damage to exhaust valves due to exhaust gases in high-powered internal combustion engines. Ger. patent 744 250, Nov 17, 1941. Application D 80956 Ia/46c-1, dated Aug. 3, 1939. Inventor: Scherenberg. In German. 1.50
Drawings included.

138-140
PB L 70433
MASCHINENFABRIK AUGSBURG-NÜRNBERG A.G., NÜRNBERG. Piston for slot-controlled internal combustion engines. Ger. patent 744 251, Feb 26, 1944. Application M 156263 Ia/46c-1, dated Dec 19, 1942. Inventor: Lange. In German. 1.50
Drawings included.

141-142
PB L 70433
MAHLE KOMM. GES., STUTTGART-BAD CANNSTADT. Light metal piston for internal combustion engines. Ger. patent 744 252, Jan 12, 1944. Application M 156768 Ia/46c-1, dated Nov 1, 1942. Inventor: Eick. In German. 1.50
Drawing included.

143-144
PB L 70433
SIEMENS & HALSKE A.G., BERLIN-SIEMENSSTADT. Method for producing zinc layers deposited on carriers as a coating for condensers. Ger. patent 744 255,

Jan 12, 1944. Application S 148806 VIa/48b, dated Feb 10, 1942. Inventor: Bauer. In German. 1.50

145-147 PB L 70433 VOMAG VOGTLÄNDISCHE MASCHINENFABRIK A.G., PLAUEN, VOGTL. Device for fastening the cone shaped clamp of tools in the operating spindle of tool making machines. Ger. patent 744 266, May 27, 1944. Application V 36209 Ib/49b, dated Oct 5, 1939. Inventor: Weller. In German. 1.50
Drawings included.

148-150 PB L 70433 GROSSER, MAX (Inventor). Container for preparing yoghurt (a fermented milk). Ger. patent 744 267, Jan 12, 1944. Application G 104814 IVa/53e, dated Jan 30, 1942. In German. 1.50

151-152 PB L 70433 STREINTZ, HERMANN (Inventor). Method of producing foodstuffs or additional agents for dietetic food. Ger. patent 744 268, Jan 13, 1944. Application St 60111 IVb/53g, dated Oct 6, 1940. In German. 1.50

153-154 PB L 70433 VÁNÉ, FRANZ (Inventor). Method for producing food by the decomposition of legumes, etc., by means of vegetable proteolytic enzymes. Ger. patent 744 259 Jan 13, 1944. Application V 37752 IVa/53i, dated May 30, 1941. In German. 1.50

155-156 PB L 70433 SCHWARTAUER WERKE A.G., BAD SCHWARTAU Method for preserving the fresh pulp of grapes for producing pectin. Ger. patent 744 260, Jan 13, 1944. Application Sch 124956 IVa/53k, dated May 27, 1942. Inventor: Herzer. In German. 1.50

157-158 PB L 70433 RENKER-BELIPA G.M.B.H., LENDERSDORF-KRAUTHAUSEN B. DÜREN. Method for producing diazotypes. Ger. patent 744 262, Jan 13, 1944. Application R 111858 IVa/57b, dated Dec 25, 1941. Inventors: Bucherer, Oestreicher and Winzer. In German. 1.50

159-162 PB L 70433 I.G. FARBENINDUSTRIE A.G., FRANKFURT AM MAIN. Method for producing color photographs by means of dye bases fast to diffusion. Ger. patent 744 264, Jan 13, 1944. Application I 61930 IVa/57b, dated Jul 15, 1938. Inventors: Schneider and Fröhlich. In German. 1.50

163-165 PB L 70433 I.G. FARBENINDUSTRIE A.G., FRANKFURT AM MAIN. Method for producing color photographs by means of color developing. Ger. patent 744 265, Jan 17, 1944. Application I 69985 IVa/57b, dated Jul 1, 1941. Inventors: Schneider, Fröhlich and Tappe. In German. 1.50
Graphs included.

166-168 PB L 70433 KLEIN, SCHANZLIN & BECKER A.G., FRANKENTHAL, PFALZ. Sectional centrifugal pump for high pressures. Ger. patent 744 266, Jan 13, 1944. Application K 159012 Ia/59b, dated Oct 20, 1940. Inventor: Weyland. In German. 1.50
Drawings included.

169-174 PB L 70433 HAAS alias ROLLE, PIERRE GEORGES RENÉ JULIEN (Inventor). Control system for electrically operated vehicles. Ger. patent 744 268, Jan 13, 1944. Application H 167063 VIIId/63c, dated Dec 19, 1941. In German. 1.50
Drawings included.

175-176 PB L 70433 OELENHEINZ, THEODOR (Inventor). Soaps with pleasant tobacco odor. Ger. patent 744 270, Jan 13, 1944. Application O 23102 IVa/23e, dated Aug 3, 1937. In German. 1.50

177-178 PB L 70433 IREKS A.G., KULMBACH. Method for producing a protein containing baking agent of regular foam. Ger. patent 744 271, Jan 13, 1944. Application I 71818 IVa/2c, dated Mar 20, 1942. Inventor: Ruckdeschel. In German. 1.50

179-180 PB L 70433 BIOSYN G.M.B.H., WEIMAR. Method of processing fungus mycelia for the production of food, beverages and fodder. Ger. patent 744 272, Jan 13, 1944. Application B 179421 IVa/6a, dated Sept 2, 1942. Inventor: Peukert. In German. 1.50

181-182 PB L 70433 I.G. FARBENINDUSTRIE A.G., FRANKFURT AM MAIN. Washing, cleaning and softening agent. Ger. patent 744 274, Jan 13, 1944. Application I 66729 IVd/8i, dated Mar 21, 1940. Inventors: Haussmann, Spaeth and Fürhusser. In German. 1.50

183-184 PB L 70433 SCHMIDT, KARL (Inventor). Method for fast color dyeing of aniline black with salts of sulfuric acid esters of leuco vat dyes or preparations of colors developed in acid vapor, on cellulose fibers. Ger. patent 744 275, Jun 8, 1944. Application Sch 124570 IVd/8n, dated Apt 2, 1942. In German. 1.50

185-188 PB L 70433 FIRMA KRAUSE, KARL, LEIPZIG. Method and installation for the multiple use of cutting bases in triple bladed cutting machinery for paper staples, etc. Ger. patent 744 276, Jan 13, 1944. Application K 161113, dated May 17, 1941. Inventor: Cruse. In German. 1.50
Drawings included.

189-191 PB L 70433 I.G. FARBENINDUSTRIE A.G., FRANKFURT AM MAIN. Method and installation for concentrating fluids. Ger. patent 744 277, Jan 20, 1944. Application I 69485 IVa/13a, dated Apr 29, 1941. Inventor: Traut. In German. 1.50
Addition to patent 739 863.
Drawing included.

192-193 PB L 70433 ALLGEMEINE ELYCTRICITÄTS GESELLSCHAFT, BERLIN. Device for dissociating ammonia. Ger. patent 744 278, Jan 13, 1944. Application L 101096 IVb/121, dated Jun 19, 1940. Inventors: Lohausen and Kugler. In German. 1.50
Drawing included.

194-196 PB L 70433 BAYRISCHE STICKSTOFFWERKE A.G., BERLIN-SCHÖNEBERG. Method for partial or complete saponization of calcium carbide. Ger. patent 744 279, Jan 13, 1944. Application B 178615 IVb/12x, dated

May 30, 1937. Inventors: Wendland, Hoffmann and Füldner. In German. 1.50

197-199 PB L 70433 — FIRMA MERCK, E., DARMSTADT. Method for producing pyrimidine derivatives. Ger. patent 744 280, Jan 20, 1944. Application M 153037 IVc/12p, dated May 30, 1937. Inventors: Williams and Cline. In German. 1.50

200-201 PB L 70433 — CHWALA, AUGUST and WALDMANN, EDMUND (Inventors). Method for producing imidazoline-N-alkyl or hydroxy alkyl sulfonic acids. Ger. patent 744 281, Jan 17, 1944. Application C 54506 IVc/12 p, dated Nov 4, 1938. In German. 1.50

202-203 PB L 70433 — KERESZTY and WOLF. Method for producing cyclic-substituted tetrazoles. Ger. patent 744 282, Jan 13, 1944. Application C 56646 IVc/12p, dated Jul 13, 1941. Inventors: Földi and Demjen. In German. 1.50

204-205 PB L 70433 — KNOLL A.G. CHEMISCHE FABRIKEN, LUDWIGSHAFEN, RHEIN. Method for producing knitting fibers from blossoms of Arnica montana. Ger. patent 744 283, Jan 13, 1944. Application K 161422 IVc/12p, dated Jun 19, 1941. Inventors: Forst, Thies and Schenck. In German. 1.50

206-207 PB L 70433 — BROWN, BOVERI & CIE A.G., MANNHEIM KÄFERTAL. Roll conveyor grate for industrial furnaces. Ger. patent 744 285, Jan 20, 1944. Application B 196698 VIa/18c, Jan 10, 1942. Inventor: Tongern. In German. 1.50
Addition to patent 727 407.
Drawing included.

208-210 PB L 70433 — SIEMENS & HALSKE A.G., BERLIN-SIEMENSSTADT. Diaphragm for electro-acoustic devices made from a fiber wash by means of dipping and casting. Ger. patent 744 286, Jan 13, 1944. Application S 126256 VIIIa/21a-2, dated Mar 3, 1937. Inventor: Steffens. In German. 1.50
Drawings included.

211-213 PB L 70433 — SIEMENS & HALSKE A.G., BERLIN-SIEMENSSTADT. Method for rectifying two or multi-phase DC amplifiers. Ger. patent 744 287, Jan 13, 1944. Application S 144066 VIIIa/21a-2, dated Feb 17, 1941. Inventor: Weitzenmiller. In German. 1.50
Drawings included.

214-216 PB L 70433 — LORENZ, C.,A.G., BERLIN-TEMPELHOF. Method for transmitting signals in a carrier frequency system. Ger. patent 744 288, Jan 13, 1944. Application L 95350 VIIIa/21-2, dated Aug. 5, 1938. Inventor: Hagen. In German. 1.50
Drawings included.

217-218 PB L 70433 — BUSCH-JAEGER LÜDENSCHEIDER METALLWERKE A.G., LÜDENSCHEID. Rotating switch. Ger. patent 744 289, Jan 13, 1944. Application B 200443 VIIIb/21c, dated Nov 22, 1942. Inventor: Kuhbier. In German. 1.50
Drawings included.

219-221 PB L 70433 — HARTMANN & BRAUN A.G., FRANKFURT AM MAIN. Bridge circuit with double-wound crossed-coil device. Ger. patent 744 290, Jan 25, 1944. Application H 164054 VIIId/21c, dated Dec 14, 1940. Inventor: Zimmer. In German. 1.50
Drawings included.

223-223 PB L 70433 — FIRMA BAUMGARTNER, FRANZ, KÖLN-KLETTENBERG. Mercury relay operated by means of heating or cooling of gases. Ger. patent 744 291, Jan 13, 1944. Application B 202878 VIIIb/21c, dated Jun 9, 1943. Inventor: Baumgartner. In German. 1.50
Addition to patent 720 850.
Drawings included.

224-228 PB L 70433 — PETIT, ETIENNE JEAN BERNARD (Inventor) Time switch with and adjustable gear retarding mechanism. Ger. patent 744 292, Jan 13, 1944. Application P 83981 VIIIb/21c, dated Mar 28, 1942. In German. 1.50
Drawings included.

229-232 PB L 70433 — GEBRÜDER JUNGHANS A.G., SCHRAMBERG. Lay shaft drive adjustable to constant speed and operated by an auxiliary motor which average RPM corresponds with the constant predetermined RPM. Ger. patent 744 293, Jan 13, 1944. Application I 60361 VIIId/21c, dated Jan 27, 1938. In German. 1.50
Drawings included.

233-235 PB L 70433 — LANDIS & GYR A.G., ZUG, SCHWEIZ. Contact arrangement for automatic switches. Ger. patent 744 294, Jan 13, 1944. Application L 104370 VIIIb/21c, dated May 24, 1941. Inventor: Perret. In German. 1.50
Drawings included.

236-239 PB L 70433 — ALLGEMEINE ELECTRICITÄTS-GESELLSCHAFT, BERLIN. Switching device for heavy current installations. Ger. patent 744 295, Aug 10, 1944. Application L 98894 VIIId/21d-3, dated Aug 26, 1939. Inventors: Berden and Semper. In German. 1.50
Drawings included.

240-242 PB L 70433 — VEREINIGTE GLÜHLAMPEN UND ELECTRICITÄTS A.G., UJPEST B. BUDAPEST. Electron tube. Ger. patent 744 296, Jan 13, 1944. Application V 34382 VIIIc/21g, dated Jan 13, 1944. Inventor: Winter. In German. 1.50
Drawings included.

243-244 PB L 70433 — BOSCH, ROBERT,G.M.B.H., STUTTGART. Gridlike dynode for secondary electron multipliers. Ger. patent 744 297, Jan 13, 1944. Application B 187763 VIIIc/21g, dated Jan 22, 1939. Inventor: Maurer. In German. 1.50
Drawings included.

245-247 PB L 70433 — SIEMENS & HALSKE A.G., BERLIN-SIEMENSSTADT. Arrangement for reducing the sensitivity of secondary electronic multipliers having a magnetic field toward variations of the supplied voltage. Ger. patent 744 298, Oct 18, 1944. Application S 130218 VIIIc/21g, dated Dec 31, 1937. Inventor: Schnitger. In German. 1.50
Drawings included.

248-250
PB L 70433
ALLGEMEINE ELECTRICITÄTS-GESELLSCHAFT, BERLIN. Anode tube for x-ray tubes with external anode. Ger. patent 744 299, Jan 13, 1944. Application L 100328 VIIIc/21g, dated Feb 29, 1940. Inventor: Biel. In German. 1.50
Drawings included.

251-253
PB L 70433
ELECTRICITÄTSGESELLSCHAFT "SANITAS" M.B.H., BERLIN. Device for operating X-ray tubes. Ger. patent 744 300, Jan 13, 1944. Application B 53003 VIIIc/21g, dated Sept 30, 1939. Inventor: Niemann. In German. 1.50
Drawings included.

254-255
PB L 70433
I.G. FARBENINDUSTRIE A.G., FRANKFURT AM MAIN. Method for producing azo dyes insoluble in water on the fiber. Ger. patent 744 301, Jan 30, 1944. Application I 67947 IVd/22a, dated Aug 2, 1939. Inventors: Zerweck and Heinrich. In German. 1.50

256-257
PB L 70433
I.G. FARBENINDUSTRIE A.G., FRANKFURT AM MAIN. Method for producing O-hydroxy azo dyes containing chromium. Ger. patent 744 303, Jan 31, 1944. Application I 67131 IVd/22a, dated Jun 4, 1940. Inventor: Müller. In German. 1.50

258-259
PB L 70433
I.G. FARBENINDUSTRIE A.G., FRANKFURT AM MAIN. Method for producing lenco sulfuric acid ester. Ger. patent 744 305, Jun 8, 1944. Application I 65137 IVd/22b, dated Jul 13, 1939. Inventors: Krämlein and Burneleit. In German. 1.50

260-261
PB L 70433
FIRMA STÄDTLER, J.S., NÜRNBERG. Method of producing leads for writing and designing purposes that are unburnt and moisture proof. Ger. patent 744 306, Jan 13, 1944. Application St 60361 IVc/22g, dated Jan 7, 1941. Inventor: Ley. In German. 1.50

262-263
PB L 70433
LUCKMANN, HERMANN and SUTTER, HERMANN (Inventors). Method for cleaning and preserving stone walls, monuments of stone, masonry and white wash. Ger. patent 744 307, Jan 13, 1944. Application K 152611 IVc/22g, dated Dec 3, 1938. In German. 1.50

264-265
PB L 70433
WITTY, JOSEF (Inventor). Compressor with vertical driving shaft and preliminary compression of the feeding agent by means of a blower. Ger. patent 744 308, Jan 13, 1944. Application W 107918 Ia/27b, dated Oct 19, 1940. In German. 1.50
Drawing included.

266-267
PB L 70433
I.G. FARBENINDUSTRIE A.G., FRANKFURT AM MAIN. Method for oiling and impregnating leather. Ger. patent 744 309, Jan 13, 1944. Application I 66388 IVd/28a, dated Jan 30, 1940. Inventor: Otto. In German. 1.50

268-269
PB L 70433
I.G. FARBENINDUSTRIE A.G., FRANKFURT AM MAIN. Method for illustrating, characterizing, visualizing and registering of structures within the body of a human being or animal. Ger. patent 744 310, Jan 13, 1944. Application I 65509 IIa/30a, dated Aug 19, 1939. In German. 1.50

270-272
PB L 70433
STENGEL, GEBR. Chair or couch that can be converted into a bed. Ger. patent 744 311, Jan 13, 1944. Application St 60930 X/34g, n.d. Inventors: Stengel, Carl, Stengel, Ernst, and Schleith, Fritz. In German. 1.50
Drawings included.

273-274
PB L 70433
FIRMA NEUBAUER, LOUIS, CHEMNITZ. Adjustable countershaft for elevators, winches etc. Ger. patent 744 313, Jan 13, 1944. Application N 45556 XI/35c, dated Apr 3, 1942. Inventor: Goldhahn. In German. 1.50
Addition to patent 695 785.
Drawing included.

275-276
PB L 70433
GARNY, FRANZ, KOMM.-GES., FRANKFURT AM MAIN-NIEDERRAD. Sliding double window that consists of two parts. Ger. patent 744 314, Jan 25, 1944. Application G 99500 V/37d, dated Feb 12, 1939. Inventor: Hirich. In German. 1.50
Drawing included.

277-278
PB L 70433
GROSSE, ARTHUR (Inventor). Device for tightening windows. Ger. patent 744 315, Jan 13, 1944. Application G 97986 V/37d, dated Jun 4, 1938. In German. 1.50
Drawings included.

279-280
PB L 70433
SANDER, HEINRICH (Inventor). Method for producing pressed objects of peat. Ger. patent 744 316, Jan 13, 1944. Application S 135878 IVc/39b, dated Feb 18, 1939. In German. 1.50

281-282
PB L 70433
PHRIX ARBEITSGEMEINSCHAFT, HIRSCHBERG, RIESENGEB. Method for producing poly condensation products. Ger. patent 744 317, Jan 20, 1944. Application P 79753 IVc/39c, dated Sept 16, 1939. Inventors: Dürr, Meldenhauer and Bock. In German. 1.50

283-284
PB L 70433
I.G. FARBENINDUSTRIE A.G., FRANKFURT AM MAIN. Method for producing high percentage stable emulsions. Ger. patent 744 318, Jun 17, 1944. Application I 67548 IVc/39c, dated Jul 27, 1940. Inventor: Starck. In German. 1.50

285-286
PB L 70433
FÜRSTLICH HOHENZOLLERNSCHE HÜTTENVERWALTUNG LAUCHERTHAL, LAUCHERTHAL, HOHENZ. Employment of copper alloys without nickel and tin for high quality objects. Ger. patent 744 319, Jan 21, 1944. Application F 89280 VIa/40b, dated Dec 29, 1940. Inventor: Zimmer. In German. 1.50

287-288
PB L 70433
I.G. FARBENINDUSTRIE A.G., FRANKFURT AM MAIN. Galilian view finder for motion picture cameras. Ger. patent 744 320, Jul 31, 1944. Application I 66491 IIa/42h, dated Feb 17, 1940. Inventor:

Gehrke. In German. 1.50
Drawing included.

289-291
PB L 70433
ZEISS IKON A.G., DRESDEN. Device for eliminating secondary images in stereo projection. Ger. patent 744 321, Jan 17, 1944. Application Z 24647 IIa/12h, dated Jun 26, 1938. Inventor: Pistor. In German. 1.50
Drawings included.

292-293
PB L 70433
ALUMINIUM-INDUSTRIE-AKT.-GES., CHIPPIS, WALLIS, SCHWEIZ. Adjustable tripod for spectral analytical cameras. Ger. patent 744 323, Jan 20, 1944. Application A 93024 IIa/42h, dated Mar 5, 1941. Inventors: Zeerleder and Rohner. In German. 1.50
Drawing included.

294-295
PB L 70433
THORNER, WALTHER (Inventor). Eye glasses for color-blind people. Ger. patent 744 324, Jul 21, 1944. Application T 57201 IIa/42h, dated Apr. 10, 1942. In German. 1.50
Drawings included.

296-297
PB L 70433
ALLGEMEINE ELECTRICITÄTS-GESELLSCHAFT, BERLIN. Method and testing apparatus for determining the required force for stretching textile material that is excellent in resistance to tearing. Ger. patent 744 325, Jan 13, 1944. Application L 107094 IIb/42k, dated Mar 10, 1942. Inventor: Stein. In German. 1.50
Drawings included.

298-299
PB L 70433
AHLBORN, EDUARD, A.G., HILDESHEIM. Stirrer for stable cylindrical tanks containing liquids. Ger. patent 744 326, Jan 13, 1944. Application A 95165 III/45g, dated May 4, 1942. Inventors: Sell and Rosenthal. In German. 1.50
Addition to patent 724 194.
Drawings included.

300-302
PB L 70433
WELLMANN, ALBERT (Inventor). Infinitely variable lamellar gear drive. Ger. patent 744 327, Jun 5, 1944. Application W 108305 XII/47h, dated Dec 31, 1940. In German. 1.50
Drawings included.

303-304
PB L 70433
VÖGELE, JOSEPH, A.G., MÜNCHEN. Method for enameling metallic objects. Ger. patent 744 328, Jun 2, 1944. Application V 369541 VIb/48c, dated Aug 23, 1940. Inventor: Lansendörfer. In German. 1.50

305-307
PB L 70433
WESSELMANN-BOHRER CO., A.G., GERA. Drilling machine with adjustable tail stock controlled by the motion of the motor. Ger. patent 744 329, Jan 13, 1944. Application W 106001 Ib/49a, dated Jul 9, 1939. Inventor: Schuls. In German. 1.50
Drawings included.

308-310
PB L 70433
PHOENIX NÄHMASCHINEN A.G., BAER & REMPEL, BIELEFELD. Lowering device for the upper parts of sewing machines. Ger. patent 744 330, Jan 17, 1944. Application P 82838 VII/52a, dated Aug 2, 1941. Inventor: Büttemann. In German. 1.50
Drawings included.

311-313
PB L 70433
FIRMA BROCKSIEPER, WILHELM, BRÜGGE, WESTF. Press for handbags particularly for gluing the bottom consisting of several layers. Ger. patent 744 331, Jan 17, 1944. Application B 198093 II/55a, dated Apr 30, 1942. Inventor: Brocksieper, Edmund. In German. 1.50
Drawings included

314-315
PB L 70433
FRITZSCHE, GUST and KRÖMER, JOSEF FRIEDRICH, LEIPZIG. Collapsible sled. Ger. patent 744 332, Jan 17, 1944. Application F 92413 II/63b, dated Sep 4, 1942. Inventor: Schertel. In German. 1.50
Drawings included.

316-318
PB L 70433
VICTORIA-WERKE A.G., NÜRNBERG. Motor tricycle with spring mounted wheels particularly for invalids. Ger. patent 744 333, Feb 26, 1944. Application V 38366 II/63c, dated Dec 24, 1941. Inventor: Reder. In German. 1.50
Drawings included.

319-321
PB L 70433
KAHLERT, ROBERT (Inventor). Emergency garage for motor vehicles. Ger. patent 744 335, Jan 17, 1944. Application K 166469 II/63c, dated Nov. 13, 1942. In German. 1.50
Addition to patent 702 443.
Drawings included.

322-324
PB L 70433
KÖLZER, BERNHARD (Inventor). Device for simultaneously locking the bicycle, saddle and airpump. Ger. patent 744 336, Feb 26, 1944. Application K 165198 II/63f, dated Jul 7, 1942. In German. 1.50
Drawings included.

325-327
PB L 70433
MERLIN, AUGUST and FALCONET JOACHIM (Inventors). Rim brake particularly for bicycles. Ger. patent 744 337, Jan 14, 1944. Application M 152185 II/63i, dated Oct 22, 1941. In German. 1.50
Drawings included.

328-330
PB L 70433
AUTO UNION A.G., CHEMNITZ. Motorcycle. Ger. patent 744 338 Application A 94366 II/63k, dated Oct 30, 1941. Inventor: Benza. In German. 1.50
Drawings included.

331-333
PB L 70433
DEUTSCHE SCHIFF UND MASCHINENBAU A.G., WESERMÜNDE-GEESTEMÜNDE. Inertia type flap davit. Ger. patent 744 339, Jan 14, 1944. Application D 87238 XI/65a-2, dated Mar 14, 1942. Inventor: Schleufe. In German. 1.50
Drawings included.

334-336
PB L 70433
KIEP, JOHANN NIKOLAUS and SINCLAIR HAROLD (Inventors). Reversing gear for a ship. Ger. patent 744 340, Nov 17, 1944. Application K 15577 XI/65f-2, dated Oct 28, 1939. In German. 1.50
Drawings included.

337-338
PB L 70433
LENNARTZ, WALTER (Inventor). Exchangeable insertion for

fountain pens with ink container and feeding channel for the pen. Ger. patent 744 341, Dec 7, 1944. Application L 105074 X/70b, dated Aug 9, 1941. In German. 1.50
Drawings included.

339-340 PB L 70433 SCHLIEF, KARL (Inventor). Protective cap for the pen of fountain pens used during filling. Ger. patent 744 342, Jan 14, 1944. Application Sch 123943 X/70b, dated Jan 9, 1942. In German. 1.50
Drawings included.

341-343 PB L 70433 KLEMT, JULIUS HERMANN (Inventor). Machine gun with cartridge chamber divided longitudinally and shaped by means of two cylinders. Ger. patent 744 343, Jan 14, 1944. Application K 155918 XI/72h, dated Nov 4, 1939. In German. 1.50
Drawings included.

344-345 PB L 70433 ALLGEMEINE ELECTRICITÄTS-GESELLSCHAFT, BERLIN. Device for the remote transmission of indicator positions. Ger. patent 744 344, Jan 14, 1944. Application 74b-A321 30, dated Oct 19, 1930. In German. 1.50
Addition to patent 706 403.
Drawings included.

346-347 PB L 70433 CHEMISCHES WERK SCHOLLENE G.M.B.H. Lacquering method. Ger. patent 744 345, Jan 14, 1944. Application C 58050 IVd/75c, dated Feb 23, 1943. Inventor: Haas. In German. 1.50

348-350 PB L 70433 MANUS FEUERLÖSCHAPPARATE FABRIK JOSEF RIEFENTHALER, WIEN. Device for hollow grinding, particularly the blades of ice skates. Ger. patent 744 346, Nov 23, 1944. Application M 153828 XI/77b, dated Apr 5, 1942. Inventor: Riefenthaler. In German. 1.50
Drawings included.

351-353 PB L 70433 BUCK, HERMANN (Inventor). Plastic ski. Ger. patent 744 347, Jan 14, 1944. Application B 196735 XI/77b, dated Jan 13, 1942. In German. 1.50
Drawings included.

354-356 PB L 70433 KOCIJAN, JOSEF (Inventor). Ski binding. Ger. patent 744 348, Jan 14, 1944. Application K 165049 XI/77b, dated Jun 19, 1942. In German. 1.50
Drawings included.

357-359 PB L 70433 HEYDORN, HERMANN and HEYDORN, WERNER (Inventors). Single track roller skate. Ger. patent 744 349, Jan 14, 1944. Application H 160139 XI/77b, dated Jul 19, 1939. In German. 1.50
Drawings included.

360-362 PB L 70433 DEUTSCHE WAFFEN-UND MUNITIONS-FABRIKEN A.G., BERLIN-CHARLOTTENBURG. Pressure equaliser for simultaneous pressing of several bodies consisting of primers, explosives, plastics, etc. Ger. patent 744 351. Jan 14, 1944.
Application D 85254 IVb/78c, dated Jun 12, 1941. Inventors: Wiecker and Harms. In German. 1.50
Drawings included.

363-365 PB L 70433 FRIED. KRUPP GRUSONWERK A.G., MAGDEBURG-BUCKAU. Press for modifying and compressing substances. Ger. patent 744 352, Jan 14, 1944. Application K 154457 IVb/78c, dated May 14, 1939. Inventor: Kitge. In German. 1.50
Drawings included.

366-367 PB L 70433 BERGER, ALFONS (Inventor). Method of soldering dovetails for briquetting extrusion presses on plated. Ger. patent 744 353, Jan 14, 1944. Application B 185588 VIb/80a, dated Dec 14, 1938. In German. 1.50
Addition to patent 733 802.

368-370 PB L 70433 HOYER, EWALD (Inventor). Method and device for manufacturing reinforced concrete pipes. Ger. patent 744 354, Jan 14, 1944. Application H 155753 VIb/80a, dated May 8, 1938. In German. 1.50
Drawings included.

371-372 PB L 70433 ROLF, AUGUST (Inventor). Wooden hoop with circular groove and spring set into the cross section. Ger. patent 744 356, Jan 14, 1944. Application R 96764 XII/81c, dated Jul 8, 1936. In German. 1.50
Drawings included.

373-375 PB L 70433 SCHILDE, BRUNO, MASCHINENBAU A.G., HERSFELD. Scaffold for warm or cold insulating double walls of drying, heating and cooling installations. Ger. patent 744 357, Jan 14, 1944. Application Sch 121604 V/82a, dated Dec 17, 1940. In German. 1.50
Drawings included.

376-378 PB L 70433 WINTZELL, TEODOR und LAURITZ, NILSTORP (Inventors). Method for precipitating and separating colloids in waste liquors from the diffusion in beet sugar production. Ger. patent 744 358, Jan 14, 1944. Application W 109399 IVa/89c, dated Jul 30, 1941. In German. 1.50
Drawing included.

379-380 PB L 70433 DEUTSCHE BERGIN A.G. FÜR HOLZHYDROLYSE, MANNHEIM-RHEINAU. Method for expelling gaseous hydrogen chloride from acid wood sugar solutions. Ger. patent 744 360, Jan 14, 1944. Application F 91798 IVa/89i, dated May 16, 1942. Inventors: Bergius and Rutscheller. In German. 1.50

381-382 PB L 70433 METALLGESELLSCHAFT A.G., FRANKFURT AM MAIN. Method and installation for electrical separation. Ger. patent 744 361, Sept 16, 1944. Application M 154701 VIb/1-b, dated May 27, 1942. Inventor: Heinrich. In German. 1.50

383-384 PB L 70433 DURAND & HUGUENIN A.G., BASEL, SCHWEIZ. Method for dyeing fibers made of super polyamides. Ger. patent 744 362, Jul 21, 1944. Application D 87936 IVd/8m, dated Dec 17, 1941. In German. 1.50
Addition to patent 740 100.

385-386
PB L 70433
I.G. FARBENINDUSTRIE A.G., FRANKFURT AM MAIN. Bottom for heat exchangers. Ger. patent 744 364, Jun 10, 1944. Application I 66589 IVa/12m, dated Feb 27, 1940. Inventor: Sigwart. In German. 1.50
Drawings included.

389-390
PB L 70433
I.G. FARBENINDUSTRIE A.G., FRANKFURT AM MAIN. Bottom for interchange of two fluids and vapors or gases. Ger. patent 744 365, Jan 14, 1944. Application I 70482 IVa/12m, dated Sept 16, 1941. Inventor: Wirth. In German. 1.50

391-393
PB L 70433
LOREY, HEINRICH PAUL (Inventor). Device for the automatic distillation of sea water and other liquids. Ger. patent 744 366, Jan 14, 1944. Application L 102598 IVa/12m, dated Dec 1, 1940. In German. 1.50
Drawings included.

394-395
PB L 70433
I.G. FARBENINDUSTRIE A.G., FRANKFURT AM MAIN. Method for purifying chlorine gas. Ger. patent 744 367, Jan 14, 1944. Application I 68684 IVb/12i, dated Jan 19, 1941. Inventors: Menn and Gruber. In German. 1.50

396-397
PB L 70433
I.G. FARBENINDUSTRIE A.G., FRANKFURT AM MAIN. Production of hydrogen chloride. Ger. patent 744 368, Jan 14, 1944. Application I 65957 IVb/121, dated Nov 15, 1939. Inventors: Just and Menn. In German. 1.50

398-399
PB L 70433
I.G. FARBENINDUSTRIE A.G., FRANKFURT AM MAIN. Method for producing chlorites. Ger. patent 744 369, Feb 26, 1944. Application I 67533 IVb/121, dated Jul 26, 1940. Inventor: Erbe. In German. 1.50

400-401
PB L 70433
GEIGY, J. R., A.G., BASEL, SCHWEIZ. Method for producing α-pyrone carboxylic acid amides. Ger. patent 744 371, Jan 18, 1944. Application G 102764 IVc/12g, dated Dec 20, 1940. Inventors: Martin and others. In German. 1.50

402-403
PB L 70433
I.G. FARBENINDUSTRIE A.G., FRANKFURT AM MAIN. Method for producing a condensation product of β-naphthol and glycerol. Ger. patent 744 372, Jan 20, 1944. Application I 70494 IVc/12g, dated Sept 23, 1941. Inventor: Eckelmann. In German. 1.50

404-406
PB L 70433
SIEMENS-SCHUCKERT A.G., BERLIN-SIEMENSSTADT. Device for charging electrically operated vehicles. Ger. patent 744 373, Jan 14, 1944. Application S 151130 VIIId/20k, dated Jul 4, 1942. Inventor: Petersen. In German. 1.50
Drawing included.

407-409
PB L 70433
BERGMANN-ELECTRICITÄTS-WERKE A.G., BERLIN-WILHELMSRUH. Switching system for electrically operated vehicles. Ger. patent 744 374, Jan 14, 1944. Application B 186951 VIIId/20 1, dated Apr 15, 1939. Inventor: Schröder. In German. 1.50
Drawings included.

410-411
PB L 70433
ALLGEMEINE-ELECTRICITÄTS-GESELLSCHAFT, BERLIN. Device for maintaining the voltage of electrical vehicles. Ger. patent 744 375, Jan 14, 1944. Application L 104509 VIIId/20-1, dated Jun 6, 1941. Inventor: Vanselow. In German. 1.50
Drawings included.

412-414
PB L 70433
SIEMENS & HALSKE A.G., BERLIN-SIEMENSSTADT. Method for transmitting telegraphic signs in carrier telegraph installations. Ger. patent 744 376, Jan 14, 1944. Application S 124536 VIIIa/21a-1, dated Oct 14, 1936. Inventors: Hähnle and Junge. In German. 1.50
Drawings included.

415-419
PB L 70433
SIEMENS & HALSKE A.G., BERLIN-SIEMENSSTADT. Teletype transmitter for the five-unit code with several type sets, preferably two groups and automatic transmission of a change signal shifting to another type system. Ger. patent 744 377, Jan 14, 1944. Application S 145788 VIIIa/21a-1, dated Jun 18, 1941. Inventor: Bauder. In German. 1.50
Drawings included.

420-421
PB L 70433
TELEFUNKEN GESELLSCHAFT FÜR DRAHTLOSE TELEGRAPHIE M.B.H., BERLIN-ZEHLENDORF. Piezoelectric element used for acoustic purposes consisting of two crystal plates joined to one double plate. Ger. patent 744 378, Jan 14, 1944. Application T 57602 VIIIa/21a-2, n.d. Inventor: Neulen. In German. 1.50
Drawings included.

422-425
PB L 70433
TELEFUNKEN GESELLSCHAFT FÜR DRAHTLOSE TELEGRAPHIE M.B.H., BERLIN-ZEHLENDORF. Switch arrangement for reporting interferences to the amplifier installation in a high-powered loudspeaker set up operated by means of numerous separately installed amplifiers. Ger. patent 744 379, Jan 20, 1944. Application T 53895 VIIa/21-2, dated Jun 15, 1940. Inventor: Petzold. In German. 1.50
Drawing included.

426-427
PB L 70433
ALLGEMEINE ELECTRICITÄTS-GESELLSCHAFT, BERLIN. Arrangement for transmitting uniform DC voltages by means of quadripoles non conductive for D.C. voltages. Ger. patent 744 380, May 5, 1944. Application L 104986 VIIIa/21a-2, dated Jul 26, 1941. Inventor: Nehrgang. In German. 1.50
Drawing included.

428-430
PB L 70433
AKTIENGESELLSCHAFT VORMALS SKODA-WERKE, PILSEN, PRAG. Device for synchronous switching of electric circuits consisting of a master oscillater circuit and a current circuit. Ger. patent 744 382, Jan 14, 1944. Application A 96390 VIIIb/21c, dated Sept 6, 1942. Inventors: Bláha and Bednařik. In German. 1.50
Drawings included.

431-432
PB L 70433
STUDIENGESELLSCHAFT FÜR HOCHLEISTUNGS-SCHALTER, G.M.B.H., BERLIN. Differential extinguishing chamber. Ger. patent 744 383, Jan 14, 1944.

Application M 74483 VIII/21c, dated Feb 24, 1943. Inventor: Friebe. In German. 1.50
Drawing included.

433-436
PB L 70433
MÜLLER, PAUL H. and STIEL, JOHANN (Inventors). Electric switch with knee lever mechanism. Ger. patent 744 384, Jan 14, 1944. Application M 157098 VIIIb/21c, dated Dec 11, 1941. In German. 1.50
Drawings included.

437-438
PB L 70433
STALTURBINE G.M.B.H., BERLIN. Compressed air operated drive for electric switches. Ger. patent 744 385, Jan 14, 1944. Application St 62497 VIIIb/21c, dated Nov 21, 1942. Inventor: Forwald. In German. 1.50
Drawing included.

439-441
PB L 70433
APPARELLS ELECTRIQUES ET COMPTEURS GARNIER, LYON, FRANKREICH. Damping device for electric time switches etc. Ger. patent 744 386, Jan 14, 1944. Application A 94699 VIIb/21c, dated Dec 19, 1941. In German. 1.50
Drawings included.

442-444
PB L 70433
DEUTSCHE EDELSTAHLWERKE A.G., KREFELD. Permanent magnet system in multi-phase generators. Ger. patent 744 388, Jan 14, 1944. Application D 84291 VIIId/21d-1, dated Feb 6, 1941. Inventor: Closset. In German. 1.50
Drawings included.

445-446
PB L 70433
KÖHLER, OSKAR. Double-T-armature wound for electric bicycle light generators operating in a two pole bell like magnet. Ger. patent 744 389, Jan 14, 1944. Application K 154724 VIIId/21d-1, dated Jun 14, 1939. Inventor: Köhler, Gustav Adolf. In German. 1.50

447-449
PB L 70433
SIEMENS-SCHUCKERTWERKE A.G., BERLIN-SIEMENSSTADT. Transformer arrangement. Ger. patent 744 390, Jan 14, 1944. Application S 145700 VIIId/21d-2, dated Jun 11, 1941. In German. 1.50
Drawings included.

450-452
PB L 70433
PHILIPS PATENTVERWALTUNG G.M.B.H., BERLIN. Single phase condenser motor of low power. Ger. patent 744 391, Jan 14, 1944. Application N 42932 VIId/21d-2, dated Feb 11, 1939. Inventor: Weijsbergen. In German. 1.50
Drawings included.

453-454
PB L 70433
BUCHHOLZ, MAX (Inventor). Protective device for electric appliances with liquid insulation, e.g. oil transformers. Ger. patent 744 392, Jan 14, 1944. Application B 196178 VIIId/21d-3, dated Oct 4, 1940. In German. 1.50
Drawing included.

455-457
PB L 70433
KOCH & STERZEL A.G., DRESDEN. X-ray installation with a Graetz rectifier system. Ger. patent 744 393, Jan 14, 1944. Application K 141542 VIIIc/21g, dated Oct 22, 1931. In German. 1.50
Drawings included.

458-460
PB L 70433
GESELLSCHAFT FÜR CHEMISCHE INDUSTRIE, BASEL. Method for producing azo dyes. Ger. patent 744 394, Jan 21, 1944. Application G 95278 IVd/22a, dated Apr 22, 1937. Inventors: Misslin and Thomann. In German. 1.50

461-462
PB L 70433
I.G. FARBENINDUSTRIE A.G., FRANKFURT AM MAIN. Method for producing mono azo dyes insoluble in water, on cellulose fibers. Ger. patent 744 396, Jan 18, 1944. Application I 68879 IVd/22a, dated Jan 18, 1944. Inventors: Zerweck, Heinrich and Fischer. In German. 1.50

463-464
PB L 70433
BÖHME FETTCHEMIE G.M.B.H., CHEMNITZ. Method for making dehaired hides ready for tanning. Ger. patent 744 397, Jan 14, 1944. Application B 189154 IVd/28a, n.d. Inventor: Schmitt. In German. 1.50

465-467
PB L 70433
SCHMITZ, RUDOLF (Inventor). Method for making false teeth with a profiled pin attachment in the crown of the tooth. Ger. patent 744 398, Jan 17, 1944. Application Sch 122086 IXa/30b, dated Mar 6, 1941. In German. 1.50
Drawings included.

468-469
PB L 70433
INTERNATIONALE GALALITHGESELLSCHAFT A.G., HAMBURG-HARBURG. Method of processing waste from casein hardened with form aldehyde and from formaldehyde compounds of other proteins. Ger. patent 744 400, Jan 14, 1944. Application I 67260 IVc/3ab, dated Jun 25, 1940. Inventors: Meyer and Bartels. In German. 1.50

470-471
PB L 70433
I.G. FARBENINDUSTRIE A.G., FRANKFURT AM MAIN. Method for producing polyvinylchlorides of a low degree of polymerization. Ger. patent 744 401, Jan 14, 1944. Application I 60235 IVc/39c, dated Jan 15, 1938. Inventors: Wick and Ostermayer. In German. 1.50

472-473
PB L 70433
I.G. FARBENINDUSTRIE A.G., FRANKFURT AM MAIN. Method for the production of synthetic rubber. Ger. patent 744 402, Feb 26, 1944. Application I 59792 IVc/39c, dated Dec 4, 1937. Inventors: Pannwitz and Ritzenthaler. In German. 1.50

474-475
PB L 70433
I.G. FARBENINDUSTRIE A.G., FRANKFURT AM MAIN. Method for the polymerisation of butadiene carbohydrates. Ger. patent 744 403, Jan 14, 1944. Application I 61442 IVc/39c, dated May 24, 1938. Inventors: Becker and Mühlhausen. In German. 1.50

476-478
PB L 70433
KLÖCKNER-HUMBOLDT-DEUTZ A.G., KÖLN Drive with steering device for tracked vehicles. Ger. patent 744 404, Jan 14, 1944. Application K 161752 II/63c, dated Jul 26, 1941. Inventor: Finsterwalder. In German. 1.50

479-481
PB L 70433
STÖCKEL-MENZEL, EUGEN (Inventor). Mixing and storage container for liquids consisting of two buckets that are set into each other. Ger. patent 744 406, Jan 15, 1944. Application St 59209 III/64a, dated Nov. 5, 1939. In German. 1.50
Drawings included.

482-483
PB L 70433
TURNWALD, HANNS (Inventor). Ski pole. Ger. patent 744 407, Jan 15, 1944. Application T 57222 XI/77b, dated Apr 14, 1942. In German. 1.50
Drawings included.

484-485
PB L 70433
LEUTHOLD, FRITZ (Inventor). Sign watch. Ger. patent 744 408, Jan 15, 1944. Application L 105947 IXb/83d, dated Nov 18, 1941. In German. 1.50
Drawing included.

486-488
PB L 70433
SCHLOEMANN A.G., DUSSELDORF. Wedge type gear for raising and screwing down the top roller of rolling mills. Ger. patent 744 409, Jan 15, 1944. Application Sch 121016 Ib/7a, a.d. Inventor: Kreutz. In German. 1.50
Drawing included.

489-491
PB L 70433
DÜRENER METALLWERKE A.G., BERLIN-BORSIGWALDE. Lifting platform for rolling mills. Ger. patent 744 410, Jan 15, 1944. Application D 81824 Ib/7a, dated Jan 3, 1940. Inventor: Werning. In German. 1.50
Drawings included.

492-493
PB L 70433
SIEMENS-SCHUCKERTWERKE A.G., BERLIN-SIEMENSSTADT. Blade ring connection for radially admitted centrifugal machines particularly steam turbines. Ger. patent 744 411, Jan 15, 1944. Application S 146550 Ia/14c, dated Aug 12, 1941. Inventor: Gente. In German. 1.50
Drawings included.

494-495
PB L 70433
GEBR. BÖHLER & CO. A.G., WIEN. Device for heating and directionally magnetizing of permanent magnets. Ger. patent 744 412, Jan 15, 1944. Application B 195971 VIa/18c, dated Oct 26, 1941. Inventor: Krainer. In German. 1.50
Drawing included.

496-497
PB L 70433
WILLERS, HANS-BODO. Printing telegraph receiver with printing action and perforation of strips through the same code disks. Ger. patent 744 413, Jan 15, 1944. Application C 55358 VIIIa/21a-1, dated Aug 24, 1939. Inventor: Salmon. In German. 1.50
Drawing included.

498-499
PB L 70433
I.G. FARBENINDUSTRIE A.G., FRANKFURT AM MAIN. Method of dissolving cellulose. Ger. patent 744 414, Jan 15, 1944. Application I 65441 IVc/29b, dated Aug 18, 1939. Inventor: Hecht and Gassenmeier. In German. 1.50

500-502
PB L 70433
RANCILLAC, JEAN MARIUS ALPHONSE (Inventor). Instrument for removing roots of teeth from thin sockets. Ger. patent 744 415, Jan 15, 1944. Application R 106594 IXa/30b, dated Dec 19, 1939. In German. 1.50
Drawings included.

503-504
PB L 70433
I.G. FARBENINDUSTRIE A.G., FRANKFURT AM MAIN. Method for manufacturing capsules of gelatin or other plastic material for medicines etc. Ger. patent 744 416, Jan 15, 1944. Application I 65942 IXe/30g, dated Nov 12, 1939. Inventor: Nold. In German. 1.50
Drawings included.

505-506
PB L 70433
BOMSKOV, CHRISTIAN and HARALD, ERICH. (Inventors). Method for producing a substance from the thymus gland which acts similarly to digitalis. Ger. patent 744 417, Jan 15, 1944. Application B 194942 IVa/30h, dated Jul 17, 1941. In German. 1.50

507
PB L 70433
SIEMENS & HALSKE A.G., BERLIN-SIEMENSSTADT. Method for testing the antiknock rating of fuels. Ger. patent 744 419, Jan 15, 1944. Application S 148291 IXb/42 l, dated Dec 30, 1941. Inventor: Rummel. In German. 1.50

508-510
PB L 70433
DEUTSCHE TAFELGLAS A.G. (DETAG) FURTH, BAY. Procedure for operation of a shaft furnace using alternating current for melting glass. Ger. patent 744 418, Jan 18, 1944. Application D 83252 VIb/32a, dated Sept 4, 1940. Inventors: Lerch and Strehschneider. In German. 1.50
Addition to patent 736 937.
Drawings included.

511-513
PB L 70433
MASCHINENFABRIK ANTON BILKE, BRÜNN Electrically operated coin vending machine for the compartments of elevators. Ger. patent 744 430, Jan 15, 1944. Application M 152798 IXb/43b, dated Dec 24, 1941. In German. 1.50
Drawings included.

514-516
PB L 70433
ARNOLD, OSCAR (Inventor). Two-cycle internal combustion engine with U-cylinder arrangement. Ger. patent 744 421, Jan 15, 1944. Application A 86002 Ia/46a-4, dated Mar 3, 1938. In German. 1.50
Drawing included.

517-520
PB L 70433
MERCIER, ERNEST and MERCIER, PIERRE (Inventors). Engine group consisting of free-piston type engines. Ger. patent 744 422, Jan 15, 1944. Application M 150074 Ia/46a-4, dated Feb 26, 1941. In German. 1.50
Drawings included.

521-522
PB L 70433
DEMANT, HERMANN (Inventor). Internal combustion engine with compressed-air starter and movable piston in an adjustable chamber connected to the combustion chamber. Ger. patent 744 423, Jan 15, 1944. Application D 84965 Ia/46b-1, dated May 3, 1941. In German. 1.50
Drawings included.

523-525
PB L 70433
ASKANIA-WERKE A.G., BERLIN-FRIEDENAU. Safety device on internal combustion engines for protection against knocking. Ger. patent 744 424, Jan 17, 1944. Application A 90665 Ia/46b-2, dated Dec 24, 1939. Inventor: Becker. In German. 1.50
Drawing included.

526-529
PB L 70433
GEBRÜDER L'ORANGE MOTORZUBEHÖR, STUTTGART-FEUERBACH. Device for regulating the mixture of internal combustion engines. Ger. patent 744 425, Jan 15, 1944. Application O 22289 Ia/46b-2, dated Mar 3, 1936. In German. 1.50
Drawings included.

530-534
PB L 70433
LAUBACHER, J. & CO., HAMBURG. Air cleaner, particularly for internal combustion engines.

Ger. patent 744 433, Jan 21, 1944. Application L 93227 Ia/46c-2, dated Sept 10, 1937. Inventor: Laubacher, Josef. In German. 1.50
Drawings included.

535-538
PB L 70433
MASCHINENFABRIK AUGSBURG-NÜRNBERG A.G, AUGSBURG. Gas turbine installation for the production of compressed air for blast furnaces. Ger. patent 744 427, Jan 15, 1944. Application M 152795 Ia/46f, dated Dec 28, 1941. Inventor: Schütte. In German. 1.50
Drawing included.

539-540
PB L 70433
LANGBEIN-PFANHAUSER-WERKE A.G., LEIPZIG. Method for producing protective layers of high wearability on magnesium and magnesium alloys. Ger. patent 744 428, Jan 21, 1944. Application L 101991 VIa/48a, dated Oct 5, 1940. Inventors: Elsner and Bönlich. In German. 1.50

541-543
PB L 70433
BOEHRINGER, GEBRÜDER, G.M.B.H., GÖPPINGEN. Drive for a turning lathe particularly for making crankshafts. Ger. patent 744 429, Jan 22, 1944. Application B 188039 Ib/49a, dated Jul 16, 1939. Inventor: Schumacher. In German. 1.50
Addition to patent 736 212.
Drawings included.

544-546
PB L 70433
HEYLIGENSTAEDT & COMP. G.M.B.H., WERKZEUG-MASCHINENFABRIK, GIESSEN. Moving setting rod with two faces arranged in an angular position to each other for the support of rotating sections of a continously varying diameter. Ger. patent 744 430, Jan 15, 1944. Application H 163118 Ib/49a, dated Sept 10, 1940. Inventors: Maas and Hölscher. In German. 1.50
Drawings included.

547-550
PB L 70433
GLEASON WORKS, ROCHESTER, NEW YORK, U. S. A. Cutting head for cutting gear wheels particularly spiral bevel gears. Ger. patent 744 431, Jan 15, 1944. Application G 97035 Ib/49d, dated Jan 16, 1938. Inventor: Gleason, James E., In German. 1.50
Drawings included.

551-553
PB L 70433
FERNSEH G.M.B.H., BERLIN-ZEHLENDORF. Movable support mechanism for motion picture cameras. Ger. patent 744 432, Jan 15, 1944. Application F 86321 IXa/57a, dated Feb 7, 1939. Inventor: Dosemann. In German. 1.50
Drawing included.

554-556
PB L 70433
FLUGTECHNISCHES INSTITUT AN DER TECHNISCHEN HOCHSCHULE, STUTTGART. Landing gear for air planes. Ger. patent 744 433, Jan 15, 1944. Application F 85039 XI/62c, dated May 28, 1938. Inventor: Mack. In German. 1.50
Drawings included.

557-559
PB L 70433
PHÖNIX FAHRZEUGFABRIK BRUNO VIERTMANN, BIELEFELD. Brake rod arrangement for tricycle type transport vehicles equipped with hand brake and foot brake. Ger. patent 744 434, Jan 15, 1944. Application P 81990 II/63c, dated Feb 11, 1941. Inventor: Viertmann. In German. 1.50
Drawing included.

560-562
PB L 70433
NASMITHS INVENTIONS, LIMITED, MANCHESTER, ENGLAND. Flat combing machine with backward and forward moving cylinders opposite to the tear-off roller. Ger. ptent 744 435, Jan 15, 1944. Application N 39662 VII/76b, dated Jul 17, 1936. In German. 1.50
Drawings included.

564-567
PB L 70433
NASMITHS INVENTIONS, LIMITED, MANCHESTER, ENGLAND. Tear off device for flat combing machines. Ger. patent 744 436, Jan 15, 1944. Application N 41538 VII/76b, dated Jan 12, 1938. Inventor: Nasmith, John William. In German. 1.50
Drawings included.

568-569
PB L 70433
"SEMPERIT" GUMMIWERKE A.G., WIEN. Pressing device particularly for asbestos rings. Ger. patent 744 437, Jan 15, 1944. Application S 137861 VIb/80a, dated Jul 14, 1939. Inventor: Eder. In German. 1.50
Drawings included.

570-571
PB L 70433
MÜLLER, INGENIEURBÜRO J., OSNABRÜCK. Purifying installation for sewage. Ger. patent 744 438, Application M 135308 IVb/85c, dated Aug 2, 1936. In German. 1.50
Drawings included.

572-574
PB L 70433
SIEMAG SIEGENER MASCHINENBAU A.G., DAHLBRUCH ÜBER KREUZTAL, KR. SIEGEN. Suspension of flexible coupling axles of rollers used in rolling mills. Ger. patent 744 439, Jan 15, 1944. Application S 139503 Ib/7a, dated Dec 12, 1939. Inventor: Buch. In German. 1.50
Drawing included.

575-576
PB L 70433
OTTO, C., & COMP. G.M.B.H., BOCHUM. Gas suction device for coke furnaces. Ger. patent 744 440, Jan 15, 1944. Application O 24432 VIb/10a, dated Jan 16, 1940. Inventor: Barenberg. In German. 1.50
Drawing included.

577-578
PB L 70433
THEURER, HANS (Inventor). Ice cream freezer. Ger. patent 744 441, Jan 15, 1944. Application T 54312 Ia/70b, dated dated Oct 3, 1940. In German. 1.50
Drawing included.

579-580
PB L 70433
RUSS-ELEKTROOFEN KOMM. GES., KÖLN. Electric glowing furnace. Ger. patent 744 443, Jan 22, 1944. Application R 102199 VIa/18c, dated Apr 29, 1938. Inventor: Rettschnick. In German. 1.50
Drawings included.

581-583
PB L 70433
"WISTRA" OFENBAU GESELLSCHAFT M.B.H., ESSEN. Rotary furnace with locking device installed on the rotating flange. Ger. patent 744 444, Jan 15, 1944. Application W 110856 VIa/18c, dated Apr 23, 1942. Inventors: Tripmacher and Kind. In German. 1.50
Drawing included.

584-586
PB L 70433
PINTSCH, JULIUS, KOM. GES., BERLIN. Electromagnatically controlled radiator valve especially for railway cars, having a rotary stroke disc. Ger. patent 744 445, Jan 15, 1944. Application P 82035 II/20c, n.d. Inventor: Schütz. In German. 1.50
Drawings included.

587-588
PB L 70433
SÜDDEUTSCHE TELEFON-APPARATE-KABEL-UND DRAHTWERKE A.G. TEKADE, NÜRNBERG. Arrangement for decreasing the distortion factor of push-pull amplifiers. Ger. patent 744 446, Jan 15, 1944. Application S 125345 VIIIa/21a-2, dated Dec 16, 1936. Inventor: Mader. In German. 1.50
Addition to patent 725 468.

589-590
PB L 70433
KABELWERK VACHA A.G., VACHA, RHÖNGEB. Insulated coaxial cable for transmitting audio and medium frequencies and which uses a high valve dielectric. Ger. patent 744 447, Jan 15, 1944. Application K 162537 VIIIb/21c, dated Oct 24, 1941. Inventor: Lieberknecht. In German. 1.50

591-593
PB L 70433
NEUNERT, PAUL (Inventor). Mercury tube. Ger. patent 744 448, Jan 19, 1944. Application N 43234 VIIIb/21c, dated May 12, 1939. In German. 1.50
Drawings included.

594-596
PB L 70433
ALLGEMEINE ELECTRICITÄTS-GESELLSCHAFT, BERLIN. Arrangement for determining a short-circuit. Ger. patent 744 449, Jan 27, 1944. Application L 103216 VIIIb/21c, dated Feb 8, 1941. Inventor: Jahn. In German. 1.50
Drawing included.

597-598
PB L 70433
ALLGEMEINE ELECTRICITÄTS-GESELLSCHAFT, BERLIN. Protective circuit for electrical high-tension net works. Ger. patent 744 450, Jan 19, 1944. Application L 96556 VIIIb/21c, dated Dec 14, 1938. In German. 1.50
Drawing included.

599-604
PB L 70433
ALLGEMEINE ELECTRICITÄTS -GESELLSCHAFT, BERLIN. Differential protective device. Ger. patent 744 451, Jan 15, 1944. Application L 96516 VIIIb/21c, dated Dec 10, 1938. Inventor: Heyward. In German. 1.50
Drawings included.

605-607
PB L 70433
ALLGEMEINE ELECTRICITÄTS GESELLSCHAFT, BERLIN. Directly heated cathode particularly for high powered tubes. Ger. patent 744 452, Jan 19, 1944. Application L 100469 VIIIc/21g, dated Mar 30, 1940. Inventor: Ziegenbein. In German. 1.50
Drawings included.

608-610
PB L 70433
WILIERS, HANS-BODO (Inventor). Emission electrode with an active layer of strong electron emitting substances, with a supporting wire made of a nickel alloy. Ger. patent 744 453, Jan 15, 1944. Application I 52463 VIIIc/21g, dated May 30, 1935. In German. 1.50

611-612
PB L 70433
OPTA RADIO A.G., BERLIN-STEGLITZ. Method for producing vacuum tubes of metal with a metal base carrying the electrode holder by means of a screw connection on the piston. Ger. patent 744 454, Jan 15, 1944. Application R 95172 VIIIc/21g, dated Jan 10, 1936. In German. 1.50
Drawing included.

613-615
PB L 70433
ARDENNE, MANFRED VON (Inventor). Arrangement for adjusting various parts of the emitting surface of and indirectly heated cathode of cathode ray tubes. Ger. patent 744 455, Jan 19, 1944. Application A 82011 VIIIc/21g, dated Feb 16, 1937. In German. 1.50
Drawings included.

616-617
PB L 70433
ZEISS IKON A.G., DRESDEN. Method for producing photo electrical cells that are highly sensitive. Ger. patent 744 456, Jan 19, 1944. Application Z 21104 VIIIc/21g, dated Jul 8, 1933. In German. 1.50
Drawings included.

618-619
PB L 70433
LÜHDORFF, EDUARD (Inventor). Production of a pigment for paints from clay containing sand, or from loam. Ger. patent 744 457, Jan 15, 1944. Application L 84134 IVb/22f, dated Jul 22, 1933. In German. 1.50

620-622
PB L 70433
I.G. FARBENINDUSTRIE A.G., FRANKFURT AM MAIN. Production of cuprous oxide pigments. Ger. patent 744 458, Jan 15, 1944. Application I 67202 IVb/22f, dated Jun 15, 1940. Inventors: Kuss and Hohn. In German. 1.50
Drawings included.

623-624
PB L 70433
BOEHRINGER, GEBRÜDER, G.M.B.H., GÖPPINGEN. Method and black wash for producing casting molds. Ger. ptent 744 459, Jan 15, 1944. Application B 197411 VIa/31c, dated Mar 11, 1942. Inventor: Lägeler. In German. 1.50

625-626
PB L 70433
SKAUPY, FRANZ and WEISSENBERG, GUSTAV (Inventors). Method for producing quartz fibers. Ger. patent 744 460, Jan 15, 1944. Application S 128495 VIb/32a, dated Aug 20, 1937. In German. 1.50

627-628
PB L 70433
DEUTSCHE RÖHRENWERKE A.G., DÜSSELDORF. Method for manufacturing hollow bodies by centrifugal casting. Ger. patent 744 461, Jan 15, 1944. Application D 85022 VIa/31c, dated May 11, 1941. Inventor: Roeckner. In German. 1.50
Drawing included.

629-631
PB L 70433
ULFERT, WILHELM (Inventor). Aligning device for the cross section of a bushing guide that is adjustable by means of two crossing perpendicular rules. Ger. patent 744 462, Jan 19, 1944. Application U 15627 Ib/49m, dated Mar 21, 1942. In German. 1.50
Drawings included.

632-634
PB L 70433
MÜLLER, A., & CIE MASCHINENFABRIK UND EISENGIESSEREI A.G., BEUGG, SCHWEIZ. Maximum pressure centrifugal pump. Ger. patent 744 463, Jan 17, 1944. Application M 149602 Im/59b, dated Jan 9, 1941. Inventor: Rütschi. In German. 1.50
Drawings included.

635-637
PB L 70433
BAYRISCHE MOTORENWERKE A.G., MÜNCHEN. Shifting arrangement for an additional two-stage gear drive. Ger. patent 744 464, Jan 17, 1944.

Application B 189051 II/63c, dated Nov 10, 1939. Inventor: Strobel. In German. 1.50

638-640 PB L 70433 NSU WERKE, NECKARSULM. Method for the manufacture of a welded frame particularly for two-wheeled vehicles such as bicycles, motorcycles, etc. Ger. patent 744 465, Jan 17, 1944. Application N 42950 II/63h, dated Feb 16, 1939. Inventor: Leyendecker. In German. 1.50
Drawings included.

641-643 PB L 70433 ALM, KARL MARTIN (Inventor). Shifting installation for chain driven vehicles particularly bicycles. Ger. patent 744 466, Jan 17, 1944. Application A 93793 II/63k, dated Jul 17, 1941. In German. 1.50
Drawings included.

644-647 PB L 70433 FIRMA SCHLEICHER, OSKAR, GRIEZ. Vertical needle mechanism for Verdol Jacquard frames. Ger. patent 744 467, Jan 17, 1944. Application Sch 117508 VII/86b, dated Jan 18, 1939. Inventor: Schleicher, Oskar. In German. 1.50
Drawings included.

648-649 PB L 70433 BOSCH, ROBERT, G.M.B.H., STUTTGART. Method for extruding tin bronze with 6-10% tin and 90-94% copper containing no phosphorus. Ger. patent 744 468, Jan 17, 1944. Application B 178626 Ib/7b, dated May 30, 1937. Inventors: Dorn and Brändle. In German. 1.50

650-652 PB L 70433 KOPPERS, HEINRICH, G.M.B.H., ESSEN. Installation and method for distillation of high boiling liquids such as coal tar pitch. Ger. patent 744 469, Jan 17, 1944. Application K 149603 VIb/10a, dated Feb 16, 1938. Inventor: Koppers, Heinrich. In German. 1.50
Drawing included.

653-654 PB L 70433 BERGWERKGESELLSCHAFT GEORG VON GIESCHES ERBEN, BRESLAU. Carbonisation method with coal. Ger. patent 744 470, Jan 17, 1944. Application B 188978 VIb/10a, dated Nov 1, 1939. Inventors: Jäppelt and Milde. In German. 1.50

655-656 PB L 70433 DEUTSCHE HOUGHTON FABRIK KOMM. GES., MAGDEBURG-BUCKAU. Method for preparing sulfonation products. Ger. patent 744 471, Jan 20, 1944. Application G 93594 IVd/12o, dated Aug 25, 1936. In German. 1.50

657-664 PB L 70433 MERCEDES-BÜROMASCHINEN-WERKE A.G., BENSHAUSEN, KR. SCHLEUSINGEN. Typewriter, typewriting calculating machine, etc. Ger. patent 744 472, Jan 17, 1944. Application M 142503 XII/15g, dated Aug 16, 1938. Inventor: Neumann. In German. 1.50
Drawings included.

665-666 PB L 70433 FERNSEH G.M.B.H., BERLIN-ZEHLENDORF. Externally excited oscillator with two vacuum tubes in metal feedback for generation of square pulses. Ger. patent 744 473, Jan 19, 1944. Application F 83770 VIIIa/21a-1, dated Oct 7, 1937. Inventor: Fahrenholz. In German. 1.50
Drawings included.

667-668 PB L 70433 STEATIT-MAGNESIA A.G., BERLIN-PANKOW. High frequency coil with solid core. Ger. patent 744 474, Jan 19, 1944. Application St 54332 VIIIa/21a-4, dated Jan 11, 1936. In German. 1.50
Drawings included.

669-671 PB L 70433 HAGENUK HANSEATISCHE APPARATE BAU-GESELLSCHAFT NEUFELD KUHNKE G.M.B.H., KIEL. Remote controlled switching arrangement by means of an impulse mechanism installed on a movable device. Ger. patent 744 475, Jan 17, 1944. Application H 154040 VIIIb/21c, dated Dec 19, 1937. Inventor: Bogen. In German. 1.50
Drawings included.

672-674 PB L 70433 SIEMENS & HALSKE A.G., BERLIN-SIEMENSSTADT and CHARLES RAMELOT, BRUSSELS. Electro magnetic high-voltage primary relay for high voltage switches. Ger. patent 744 476, Jan 19, 1944. Application S 123535 VIIIb/21c, dated Jul 23, 1936. Inventor: Ramelot. In German. 1.50
Drawings included.

675-678 PB L 70433 SCHIELE INDUSTRIEWERKE INHABER FRANZ SCHIELE, HORNBERG, SCHWARZWALDBAHN. Multi-poler release for high voltages. Ger. patent 744 477, Jan 17, 1944. Application Sch 101279 VIIIb/21c, dated May 27, 1933. In German. 1.50
Drawing included.

679-680 PB L 70433 ALLGEMEINE ELECTRICITÄTSGESELLSCHAFT, BERLIN. High voltage fuse. Ger. patent 744 478, Jan 18, 1944. Application A 74806 /21c, dated Dec 12, 1934. Inventor: Lohausen. In German. 1.50

681-683 PB L 70433 HYDRAWERK A.G., BERLIN. Method for producing pressure plates of a capacitor pile. Ger. patent 744 479, Jan 19, 1944. Application H 144781 VIIIc/21g, dated Aug 28, 1935. Inventor: Westermann. In German. 1.50
Drawings included.

684-686 PB L 70433 DIELEKTRA A.G., PORZ. Condenser arrangement consisting of a series of impregnated super imposed flat windings. Ger. patent 744 480, Feb 26, 1944. Application M 135335 VIIIc/21g, dated Aug 6, 1936. In German. 1.50
Drawings included.

687-688 PB L 70433 ALLGEMEINE ELECTRICITÄTSGESELLSCHAFT, BERLIN. Installation for the automatic electrical burning-welding process. Ger. patent 744 481, Jan 17, 1944. Application A 61128 VIIIc/21h, dated Mar 13, 1931. Inventor: Rietsch. In German. 1.50
Drawing included.

689-690 PB L 70433 GESELLSCHAFT FÜR CHEMISCHE INDUSTRIE, BASEL, SCHWEIZ. Method for producing o-hydroxyazo dyes. Ger. patent 744 482, Jan 17, 1944. Application G 95297 IVd/22a, dated Apr 24, 1937. Inventors: Straub and Widmer. In German. 1.50

691-693 PB L 70433 HOYER, ENALD (Inventor). Method of manufacturing partitioned compound construction parts. Ger. patent 744 483, Jan 21, 1944.

Application H 151525 V/27b, dated Apr 29, 1937. In German. 1.50

694-696
PB L 70433
KIANGFILM G.M.B.H., BERLIN. Procedure for operating sound track movies without interruption. Ger. patent 744 484, Jan 17, 1944. Application K 125722 IXa/42g, dated Jun 2, 1932. In German. 1.50
Drawings included.

697-698
PB L 70433
FUESS, R. VORM. GEHLER, J.G., JUN. & GRÜSSLER, BERLIN-STEGLITZ. Instrument used on board aircraft. Ger. patent 744 485, Jan 21, 1944. Application F 80959 IXb/42a, dated Mar 29, 1936. In German. 1.50

699-700
PB L 70433
DAIMLER-BENZ A.G., STUTTGART-UNTERTÜRKHEIM. Regulating method for two-cycle internal combustion engines of vehicles normally without charging and after-charging. Ger. patent 744 486, Jan 28, 1944. Application D 67992 Ia/46b-2, dated May 3, 1934. In German. 1.50
Drawings included.

701-703
PB L 70433
GOLD, HANS FRIEDRICH and RÜNGER, WILHELM (Inventors). Automatic gas valve and safety cock. Ger. patent 744 487, Jan 17, 1944. Application G 102320 VIb/4c, dated Sept 28, 1940. In German. 1.50
Drawings included.

704-705
PB L 70433
MASCHINENFABRIK WILHELM KNAPP G.M.B.H., WANNE-EICKEL. Method for the stable adjustment of the forward thrust of coal mining machines by means of a planetary gear. Ger. patent 744 488, Jan 17, 1944. Application M 152668 VIb/5b, dated Dec 11, 1941. Inventor: Baum. In German. 1.50
Drawings included.

706-708
PB L 70433
KAISER, KARL and HOLLENWEGER, RICHARD. (Inventors). Gas-heated burner for the distillation of spirits. Ger. patent 744 489, Jan 17, 1944. Application K 161163 IVa/6b, dated May 23, 1941. In German. 1.50
Drawings included.

709-710
PB L 70433
SOCIÉTÉ EN NOM COLLECTIF BÉNARD & HONNORAT, GRASSE, ALPES-MARITIMES, FRANKREICH. Method for producing aromatic beverages. Ger. patent 744 490, Jan 19, 1944. Application S 145279, dated May 8, 1941. Inventor: Bénard, Henry. In German. 1.50

711-712
PB L 70433
ENZINGER-UNION-WERKE AKT. GES., MANNHEIM. Elimination of the damaging secondary effect of purifying and filtering agents having large surfaces. Ger. patent 744 491, Jan 21, 1944. Application K 55859 IVa/6d, dated Mar 16, 1942. Inventors: Kessler and Winter. In German. 1.50

713-714
PB L 70433
MECANO SPEZIALARTIKEL FÜR KRAFTFAHRZEUGE HANS SICKINGER, FRANKFURT AM MAIN. Method for drawing bar steel. Ger. patent 744 492, Jan 17, 1944. Application M 146755 Ib/7b, dated Dec 23, 1939. Inventor: Leighton. In German. 1.50
Drawings included.

715-716
PB L 70433
DÜRENER METALLWERKE A.G., BERLIN-BORSIGWALDE. Process for manufacturing plated shapes by extrusion presses. Ger. patent 744 493, Jan 17, 1944. Application D 82791 Ib/7b, dated Jun 16, 1940. Inventor: Lapp. In German. 1.50
Drawings included.

717-718
PB L 70433
DEUTSCHE GOLD-UND SILBER-SCHEIDEANSTALT VORMALS ROESSLER, FRANKFURT AM MAIN. Method for producing alkalipercarbonate. Ger. patent 744 494, Jan 18, 1944. Application D 84182 IVb/121, dated Jan 21, 1941. Inventors: Pressel and Kretzschmar. In German. 1.50
Addition to patent 738 195.

719-720
PB L 70433
NOBLEE & THÖRL G.M.B.H., HAMBURG-HARBURG. Method for regulating the degree of oxidation in continous oxidation processes. Ger. patent 744 495, Jan 21, 1944. Application N 44521 IVd/12e, dated Feb 19, 1941. Inventor: Pardun. In German. 1.50

721-722
PB L 70433
NOBLEE & THÖRL G.M.B.H., HAMBURG-HARBURG. Method for the continuous oxidation of aliphatic hydrocarbons. Ger. patent 744 496, Jan 18, 1944. Application N 44616 IVd/12e, dated Mar 26, 1941. Inventor: Pardun. In German. 1.50

723-724
PB L 70433
KAPKE, HUGO (Inventor). Frame for operating and printing of sieve printing patterns. Ger. patent 744 497, Jan 17, 1944. Application K 164103 IVa/15-1, dated Mar 24, 1942. In German. 1.50
Drawings included.

725-727
PB L 70433
RADIO CORPORATION OF AMERICA, NEW YORK, U.S.A. Process for producing free alkaline-earth metal in vacuum tubes and arrangement for carrying out this method. Ger. patent 744 498, Jan 19, 1944. Application R 103901 VIIIc/21g, dated Nov 29, 1938. Inventor: Lederer. In German. 1.50
Drawings included.

728-729
PB L 70433
ELÖD, EGON and SCHACHOWSKOY, THEODOR. Method for dechroming leather waste. Ger. patent 744 499, Jan 17, 1944. Application E 54181 IVa/22i, dated Nov 16, 1940. In German. 1.50
Addition to patent 710 504.

730-732
PB L 70433
LA MONT KESSEL HERPEN & CO K.G., BERLIN. Soot blower. Ger. patent 744 500, Jan 18, 1944. Application M 150472 V/24g, dated Apr 4, 1941. Inventor: Vorkauf. In German. 1.50
Addition to patent 737 181.
Drawings included.

733-734
PB L 70433
STEIGER, WALTHER. Apparatus for depilating skins. Ger. patent 744 501, Jan 18, 1944. Application B 191794 VII/20b, dated Sept 18, 1940. Inventor: Barth. In German. 1.50
Addition to patent 711 967.
Drawings included.

735-737
PB L 70433
BYK-GULDENWERKE CHEMISCHE FABRIK A.G., BERLIN. Cylindrical vaginal tampon. Ger. patent 744 502, Nov 16, 1944. Application M 145938 IIa/30d, dated Jan 26, 1940. Inventor: Miller. In German. 1.50
Drawings included.

738-740
PB L 70433
KNOLL A.G., CHEMISCHE FABRIKEN, LUDWIGSHAFEN, RHEIN. Method for producing vitamin E. Ger. patent 744 503, Jan 18, 1944. Application K 155299 IVa/30h, dated Aug 9, 1939. Inventors: Kraft and Manisch. In German. 1.50
Drawing included.

741-743
PB L 70433
CORNING GLASS WORKS, CORNING, NEW YORK, U. S. A. Method for hardening glass objects. Ger. patent 744 504, Jan 18, 1944. Application C 53512 VIb/32a, dated Dec 29, 1937. Inventor: Phillips. In German. 1.50
Graph included.

744-745
PB L 70433
HERAEUS, W. C., G.M.B.H., HANAU. Alloys for rheostats and potentiometers. Ger. patent 744 506, Jan 18, 1944. Application H 166359 VIa/40b, dated Sep 28, 1941. Inventors: Anwärter and others. In German. 1.50

746-748
PB L 70433
SIEMENS & HALSKE A.G., BERLIN-SIEMENSSTADT. Recorder for sudden phenomena. Ger. patent 744 507, Jan 18, 1944. Application S 136102 IIb/42d, dated Mar 1, 1939. Inventor: Lange. In German. 1.50
Addition to patent 703 883.
Drawing included.

749-752
PB L 70433
DYBALLA, JOSEF (Inventor). Balance pan for scales. Ger. patent 744 508, Jan 19, 1944. Application D 84609 IIb/42f, dated Mar 15, 1941. In German. 1.50
Drawings included.

753-757
PB L 70433
HEENAN & FROUDE, LIMITED, WORCESTER, ENGLAND. Hydraulic brake dynamometer for measuring the output of rotating shafts. Ger. patent 744 509, Jan 18, 1944. Application H 150450 IXb/42k, dated Jan 29, 1937. In German. 1.50
Drawings included.

758-759
PB L 70433
EISEN-UND HÜTTENWERKE A.G., WERK HASSELSTEIN, NEUWIED. Method of manufacturing metal bands and sheets for canning, packaging etc. Ger. patent 744 510, Jan 18, 1944. Application R 106212 VIa/48a, dated Oct 12, 1939. Inventors: Kohler and Seul. In German. 1.50
Addition to patent 673 888.

760-762
PB L 70433
FIRMA SCHÜTTE, ALFRED H., KÖLN-DEUTZ. Guide for bar material used for revolving lathes, automatic lathes, etc. Ger. patent 744 511, Jan 18, 1944. Application Sch 124344 Ib/49a, dated Mar 10, 1942. Inventor: Schmitt, Walter. In German. 1.50
Drawings included.

763-764
PB L 70433
HAGEL, JAKOB (Inventor). Turning tool, etc., with hard metal blade. Ger. patent 744 512, Jan 18, 1944. Application H 45003 Ib/49a, dated Aug 16, 1941. In German. 1.50
Addition to patent 727 789.
Drawings included.

765-767
PB L 70433
JUNKERS FLUGZEUG UND MOTORENWERKE A.G., DESSAU. Feeding mechanism for rivet sorting devices on riveting machines. Ger. patent 744 513, Jan 18, 1944. Application I 64672 Ib/49g, dated May 25, 1939. Inventor: Wilde. In German. 1.50
Drawing included.

768-769
PB L 70433
MESSER & CO. G.M.B.H., FRANKFURT AM MAIN. Device for cutting circles with a torch cutter that is supported on the material. Ger. patent 744 514, Jan 19, 1944. Application M 147615 Ib/49h, dated Apr 21, 1940. Inventors: Bechtle and Haberzahl. In German. 1.50
Drawings included.

770-773
PB L 70433
HELLGREN, GUSTAF HILARIUS (Inventor). Adjusting device for calculating machines. Ger. patent 744 515, Jan 18, 1944. Application K 156867 IXb/42m, n.d. In German. 1.50

774-776
PB L 70433
FIRMA BEECK, A., OLDENBURG, OLDB. Heating or cooling apparatus with centrifugal conveyor used for fluids, particularly milk. Ger. patent 744 516, Jan 18, 1944. Application M 138736 IVa/53e, dated Jul 23, 1937. Inventor: Jung. In German. 1.50
Drawings included.

777-778
PB L 70433
CHEMISCHES LABORATORIUM HERMANN PLAUSON, BERLIN. Method for preserving blood. Ger. patent 744 517, Jan 18, 1944. Application C 55373 IVa/53i, dated Aug. 31, 1939. Inventor: Plauson. In German. 1.50

779-780
PB L 70433
HIMSTEDT, OTTO (Inventor). Container of paste board or any similar material with internal fluid-proof lining used for liquids. Ger. patent 744 518, Jan 18, 1944. Application H 160303 III/64a, dated Aug 5, 1939. In German. 1.50
Drawings included.

781-782
PB L 70433
JOHNSEN, LARS und JOHNSEN, BIRGER. Tin can. Ger. patent 744 519, Jan 18, 1944. Application I 67781 III/64a, dated Sept 5, 1940. In German. 1.50
Drawings included.

783-785
PB L 70433
FRIED. KRUPP A.G., ESSEN. Arrangement of a flexible hose between a gun carriage and a demountable trailer. Ger. patent 744 520, Jan 19, 1944. Application K 156764 XI/72c, dated Feb 17, 1940. Inventor: Oetter. In German. 1.50
Drawings included.

786-787
PB L 70433
ROCKHAUSEN, ERNST, SÖHNE, WALDHEIM, SACHS. Plate of wood or similar material provided with intarsia. Ger. patent 744 521, Jan 19, 1944. Application R 110215 IVc/75b, dated May 28, 1941. Inventor: Rockhausen, Ernst. In German. 1.50
Drawings included.

788-791
PB L 70433
MARCHAL, HENRY and HOIRET, EDOUARD. Binding with frontal tension for

snow-shoes. Ger. patent 744 522, Jan 19, 1944. Application M 150235 XI/77b, dated Mar 11, 1941. In German. 1.50
Drawings included.

792-793
PB L 70433
VEREINIGTE HÜTTENWERKE BURBACH-EICH-DÜDELINGEN A.G., SAARBRÜCKEN. Auxiliary device for guiding safely the rolling material into the various grooves of mills for rolling different shapes. Ger. patent 744 523, Jan 19, 1944. Application V 35797 Ib/7a, dated Mar 26, 1939. Inventor: Goldmann. In German. 1.50
Drawings included.

794-795
PB L 70433
GESELLSCHAFT FÜR CHEMISCHE INDUSTRIE, BASEL, SCHWEIZ. Method for preparation of a mixed aliphotic-aromatic substituted ester of estrodiole. Ger. patent 744 524, Jan 20, 1944. Application G 94597 IVc/12o, dated Jan 16, 1937. Inventors: Miescher and Scholz. In German. 1.50

796-799
PB L 70433
SIEMENS & HALSKE A.G., BERLIN-SIEMENSSTADT. Impulse receiving device for installations having inductive impulse requirements. Ger. patent 744 525, Jan 19, 1944. Application S 121869 VIIIa/21a-3, n.d. In German. 1.50
Drawing included.

800-801
PB L 70433
DEUTA WERKE VORM. DEUTSCHE TACHOMETERWERKE G.M.B.H., BERLIN. AC measuring apparatus particularly for the electrical RPM determination, with field magnets provided with hook-shaped poles for the small coil frame. Ger. patent 744 526, Jan 19, 1944. Application D 66411 VIIIa/213, dated Aug 13, 1933. In German. 1.50
Drawings included.

802-803
PB L 70433
SIEMENS-SCHUCKERTWERKE A.G., BERLIN-SIEMENSSTADT. Device for indicating insulation failures or spark-overs of impulse voltage stressed test samples. Ger. patent 744 527, Jan 19, 1944. Application S 133243 VIIId/21e, dated Jul 30, 1938. Inventor: Elsner. In German. 1.50

804-805
PB L 70433
ZSCHIMMER & SCHWARZ CHEMISCHE FABRIK DÖLAU, GREIZ-DÖLAU. Substitute for glycerine. Ger. patent 744 528, Jan 20, 1944. Application Z 25649 IVa/23e, dated Jan 27, 1940. Inventor: Schulze. In German. 1.50

806-808
PB L 70433
SOCIÉTÉ RATEAU, PARIS. Device for regulating a compressor installation with turbo compressor installed ahead of a piston type compressor. Ger. patent 744 529, Jan 19, 1944. Application S 126845 Ia/27c, dated Apr 16, 1937. In German. 1.50
Drawing included.

809-810
PB L 70433
OSWALD, RUDOLF (Inventor). Method for manufacturing heat resistant friction coatings. Ger. patent 744 530, Jan 19, 1944. Application O 24133 IVc/39b, dated Apr 20, 1939. In German. 1.50

811-812
PB L 70433
UNIVERSUM FILM A.G., BERLIN. Method for measuring sound pressure of the electro-acoustic reproducing apparatus in the reproduction room with regard to the frequency. Ger. patent 744 531, Jan 19, 1944. Application U 14257 Ixa/42g, dated Mar 23, 1938. Inventors: Ohrlich and Etzold. In German. 1.50

813-815
PB L 70433
BAYRISCHE MOTOREN WERKE A.G., MÜNCHEN. Method and installation for regulating high-altitude air-plane motors by means of a low level blower operated from the motor and an altitude blower driven by an exhaust turbine. Ger. patent 744 532, Jan 19, 1944. Application B 181742 Ia/46f, dated Feb 4, 1938. Inventor: Muller. In German. 1.50
Drawing included.

816-817
PB L 70433
MASCHINENFABRIK HEID A.G., WIENSTOCKERAU. Device for pressing edge points and punch marks for machine tools particularly for turning lathes. Ger. patent 744 533, Jan 27, 1944. Application M 148651 Ib/49a, dated Sept 17, 1940. In German. 1.50
Drawings included.

818-819
PB L 70433
ZAHNRADFABRIK FRIEDRICHSHAFEN A.G., FRIEDRICHSHAFEN. Method for back-working with profile cutters. Ger. patent 744 534, Jan 19, 1944. Application Z 25730 Ib/49b, dated Mar 19, 1940. Inventors: Wacker and Stark. In German. 1.50
Drawings included.

820-821
PB L 70433
BAYRISCHE MOTORENWERKE A.G., MÜNCHEN. Method for welding thin walled tubes. Ger. patent 744 535, Jan 19, 1944. Application B 18374 Ib/49h, dated Jul 12, 1938. Inventor: Keller. In German. 1.50
Drawings included.

822-824
PB L 70433
BLANCKENBURG, WALTER. Method for manufacturing fodder material from distillation residue particularly in agricultural potato distilling plants. Ger. patent 744 536, Jan 19, 1944. Application B 178472 IVb/53g, dated May 16, 1937. Inventors: Blanckenburg, Walter and Troike. In German. 1.50

825-826
PB L 70433
HALBERG MASCHINENBAU UND GIESSEREI A.G., LUDWIGSHAFEN, RHEIN. Device for relieving the axial thrust of motor plunger pump. Ger. patent 744 537, Jan 19, 1944. Application S 129065 Ia/59b, dated Oct 9. 1937. In German. 1.50
Drawing included.

827-828
PB L 70433
DYNAMIT-ACT.-GES. VORMALS NOBEL, ALFRED & CO., TROISDORF. Method for putting patterns on foils, tablets or plates made of thermoplastic material based on polymers and polycondensates. Ger. patent 744 538, Jan 19, 1944. Application D 83584 IVc/75b, dated Oct 22, 1940. Inventor: Warth. In German. 1.50

829
PB L 70433
SCHRADER, ERICH (Inventor). Impact resistant concrete. Ger.

patent 744 539, Jan 19, 1944. Application Sch 117572 VIb/80b, dated Jan 24, 1939. In German. 1.50

830 PB L 70433 Misprint.

831-833 PB L 70433 TEUBERT, WILHELM, BERLIN and KÖNIG, GEORG, BERLIN-DAHLEM. Girder mounted on the top of tower used for the impeller axis of a wind operated power plant. Ger. patent 744 540, Jan 19, 1944. Application T 47218 Ia/88c, dated Jul 19, 1936. In German. 1.50

834-836 PB L 70433 GESELLSCHAFT FÜR BÄCKEREIBEDARF M.B.H., BERLIN, GRUNEWALD. Method for producing a dry yeast from potatoes with the simultaneous preparation of starch. Ger. patent 744 541, Jan 19, 1944. Application G 104511 IVa/2c, dated Dec 11, 1941. In German. 1.50

837-838 PB L 70433 SCHENK, RUDOLF and WASSER, BRUNO (Inventors). Method of preparing whey for the purpose of cultivating technically utilizable bacteria. Ger. patent 744 543, Jan 20, 1944. Application Sch 125530 IVa/6b, dated Aug 21, 1942. In German. 1.50

839-841 PB L 70433 KIENE, OTTO (Inventor). Method and installation for fractional distillation. Ger. patent 744 544, Jan 19, 1944. Application K 159283 IVa/12a, dated Nov 15, 1940. In German. 1.50

842-844 PB L 70433 TELEFONBAU UND NORMALZEIT G.M.B.H., FRANKFURT AM MAIN. Teletype with devices for releasing the name of the opposite station or for transmitting special signals during the teletype connection and with devices locking the special signal key. Ger. patent 744 545, Jan 19, 1944. Application T 52611 VIII/21a-1, dated Jul 29, 1939. Inventor: Lahl. In German. 1.50
Drawing included.

845-847 PB L 70433 LORENZ, C., A.G., BERLIN-TEMPELHOF. Installation for the automatic lever control of carrier-frequency amplifiers. Ger. patent 744 546, Jan 19, 1944. Application L 99662 VIIIa/21a-2, dated Dec 13, 1939. Inventors: Hannemann and Oberländer. In German. 1.50
Drawings included.

848-850 PB L 70433 SIEMENS & HALSKE A.G., BERLIN-SIEMENSSTADT. Transmitting system with device for compensating variations caused by attenuating fluctuations of the transmitting medium. Ger. patent 744 547, Jan 19, 1944. Application S 140708 VIIIa/21a-2, dated Apr 11, 1940. Inventor: Hahne. In German. 1.50
Drawing included.

851-858 PB L 70433 SIEMENS & HALSKE A.G., BERLIN-SIEMENSSTADT. Switching system for business lines with several connecting lines in telecommunication installations particularly for telephone systems. Ger. patent 744 548, Nov 25, 1944. Application S 149851 VIIIa/21a-3, dated Apr 11, 1942. Inventor: Kudrna. In German. 1.50
Drawings included.

859-861 PB L 70433 TELEFONBAU UND NORMALZEIT G.M.B.H., FRANKFURT AM MAIN. Rotary selector switch with circular cylindric contact bank. Ger. patent 744 549, Jan 19, 1944. Application T 50232 VIIIa/21a-3, dated Apr 5, 1938. Inventor: Hatzinger. In German. 1.50
Drawings included.

862-871 PB L 70433 SIEMENS & HALSKE A.G., BERLIN-SIEMENSSTADT. Switching arrangement for telecommunication installations particularly telephone systems with business lines. Ger. patent 744 550, Nov. 30, 1944. Application S 144989 VIIIa/21a-3, dated Apr 22, 1941. Inventor: Kudrna. In German. 1.50
Drawings included.

872-880 PB L 70433 SIEMENS & HALSKE A.G., BERLIN-SIEMENSSTADT. Switching arrangement for telephone installations with several extensions on one connecting line. Ger. patent 744 551, Nov 29, 1944. Application S 147505 VIIIa/21a-3, dated Oct 31, 1941. Inventor: Pechel. In German. 1.50
Drawings included.

881-882 PB L 70433 FRANKE, GEBRÜDER, K.-G., MÜHLHAUSEN THÜR. Air-oxygen element. Ger. patent 744 552, Jan 19, 1944. Application F 88658 IVb/21b, dated Aug 7, 1940. Inventor: Wieswand. In German. 1.50
Drawings included.

883-885 PB L 70433 "ELIN" UND SCHORCH-WERKE A.G. FÜR ELEKTRISCHE INDUSTRIE, WIEN. Tubular switching arm for rotary switches and similarly constructed switches. Ger. patent 744 553, Jan 20, 1944. Application E 56255 VIIIb/21c, dated Jul 14, 1942. Inventor: Manzinger. In German. 1.50

886-887 PB L 70433 KREUTZER, OTTO (Inventor). Switching arrangement for eliminating sparks in AC circuits. Ger. patent 744 554, Jan 20, 1944. Application K 160688 VIIIb/21c, dated Apr 4, 1941. In German. 1.50
Drawing included.

888-889 PB L 70433 STUDIENGESELLSCHAFT FÜR HOCHLEISTUNGS-SCHALTER, G.M.B.H., BERLIN. Extinguishing chamber with differential vane piston. Ger. patent 744 555, Jan 20, 1944. Application St 61712 VIIIb/21c, dated Apr 8, 1942. Inventor: Reinhardt. In German. 1.50
Drawings included.

890-891 PB L 70433 SCHRÖDER, KARL (Inventor). Star shaped three way switch for poly phase induction motors. Ger. patent 744 556, Nov 16, 1944. Application Sch 122424 VIIId/21c, dated Apr 23, 1941. In German. 1.50
Drawings included.

892-895 PB L 70433 BROWN, BOVERI & CIE., A.G., BADEN, SCHWEIZ. Device for the operation of motors with pole reversing drives. Ger. patent 744 557, Jan 20, 1944. Application A 92386 VIIIa/21c, dated Nov 27, 1940. Inventor: Kern. In German. 1.50
Drawings included.

896-901
PB L 70433
BROWN, BOVERI & CIE. A.G., MANNHEIM. Single vacuum tube control for motors of reverse type rolling mills supplied by a grid controlled rectifier. Ger. patent 744 558, Jan 20, 1944. Application B 195640 VIIId/21c, dated Sept 30, 1941. Inventor: Aymanns. In German. 1.50
Drawings included.

902-904
PB L 70433
LEYHAUSEN, WILHELM (Inventor). Small automatic switch. Ger. patent 744 559, Jan 20, 1944. Application L 101579 VIIIb/21c, dated Aug 16, 1940. In German. 1.50
Drawings included.

905-907
PB L 70433
LEYHAUSEN, WILHELM (Inventor). Small automatic switch in plug or cell form. Ger. patent 744 560, Jan 20, 1944. Application L 106213 VIIIb/21c, dated Dec 14, 1941. In German. 1.50
Drawings included.

908-909
PB L 70433
TORNADO, FABRIK ELEKTRISCHER MASCHINEN UND APPARATE NACHFOLGER, BERLIN. Circuit including tuned reed rectifiers. Ger. patent 744 562, Jan 20, 1944. Application T 56217 VIIId/21d-2, dated Sept 19, 1941. In German. 1.50

910-912
PB L 70433
PINTSCH, JULIUS, KOM. GES, BERLIN. AC commutator motor with suppression of the transformer voltage by means of current deflection. Ger. patent 744 563, Jan 20, 1944. Application P 82439 VIIId/21d-2, dated May 7, 1941. Inventor: Glebow. In German. 1.50
Drawings included.

913-915
PB L 70433
ALLGEMEINE ELECTRICITÄTS-GESELLSCHAFT, BERLIN. Arrangement for insulating transformers. Ger. patent 744 565, Jan 20, 1944. Application L 103177 VIIId/21d-2, dated Feb 1, 1941. Inventor: Hubel. In German. 1.50
Drawings included.

916-917
PB L 70433
JACOBS, HANS (Inventor). Installation for producing high D.C. voltages. Ger. patent 744 566, Jan 20, 1940. Application I 69092 VIIId/21d-3, dated Mar 12, 1941. In German. 1.50
Drawing included.

918-919
PB L 70433
TELEFUNKEN GESELLSCHAFT FÜR DRAHTLOSE TELEGRAPHIE M.B.H., BERLIN-ZEHLENDORF. Neutralized amplifier tube. Ger. patent 744 567, Jan 20, 1944. Application T 57430 VIIIc/21g, dated May 19, 1942. Inventor: Bötel. In German. 1.50
Drawings included.

920-921
PB L 70433
LICENTIA-PATENT-VERWALTUNGS-GESELLSCHAFT M.B.H., BERLIN. Apparatus for showing the intensity distribution in a beam of rays of slow neutrons particularly for representing objects, by means of slow neutrons. Ger. patent 744 568, Jan 20, 1944. Application L 108223 VIIIc/21g, dated Jun 23, 1942. Inventor: Kuhn. In German. 1.50
Drawing included.

922-924
PB L 70433
GROS, GEORG (Inventor). Method and installation for producing carbon black of high quality by means of catalytic decomposition of carbon monoxide. Ger. patent 744 569, Jan 20, 1944. Application G 100610 IVb/22f, dated Aug 20, 1939. In German. 1.50
Drawings included.

925-926
PB L 70433
MEISSNER, VERA GERTRUD and others. Preserving agent for floors. Ger. patent 744 570, Jan 20, 1944. Application F 90055 IVc/22g, dated May 22, 1941. Inventor: Meissner, Richard. In German. 1.50

927-928
PB L 70433
AUERGESELLSCHAFT A.G., BERLIN. Application of sintered thorium oxide for protective screen devices. Ger. patent 744 573, Nov 16, 1944. Application A 97089 IXa/30a, dated Dec 15, 1942. Inventor: Zimmer. In German. 1.50

929-930
PB L 70433
HOEKE, VICTOR LEOPOLD. Innerspring cushion with padding layers for the seat or back of upholstered furniture. Ger. patent 744 574, Jan 20, 1944. Application H 163870 X/34g, Nov. 27, 1940. Inventor: Story. In German. 1.50
Drawings included.

931-932
PB L 70433
VINGERLING'S MASCHINENFABRIEK NV., ROTTERDAM, HOLLAND. Double walled steam cooker. Ger. patent 744 575, Sep 6, 1944. Application V 38241 X/34 1, dated Nov 21, 1941. Inventor: Vingerling. In German. 1.50
Drawings included.

933-935
PB L 70433
RÖHM HAAS G.M.B.H., DARMSTADT. Method for manufacturing resinous condensation products. Ger. patent 744 577, Jan 20, 1944. Application R 107749 IVc/39c, dated Jun 11, 1940. Inventor: Köhler. In German. 1.50

936-937
PB L 70433
I.G. FARBENINDUSTRIE A.G., FRANKFURT AM MAIN. Method for the manufacture of resinous products. Ger. patent 744 578, Jan 20, 1944. Application I 67309 IVc/39c, dated Jun 29, 1940. Inventors: Krzikalla and others. In German. 1.50

938-939
PB L 70433
VEREINIGTE DEUTSCHE METALLWERKE A.G., FRANKFURT AM MAIN-HEDDERNHEIM. Sintering applied to heat-conducting materials. Ger. patent 744 579, Feb 22, 1944. Application V 36471 VIa/40b, dated Feb 7, 1940. Inventor: Schulze. In German. 1.50

PB L 70149. HERAEUS, W. C., G.M.B.H., HANAU/HESSEN. Patents and patent applications for metallurgical processes with various alloys as well as for plastics, electric meters and devices. (FIAT Microfilm Reel J-9, Frames 1-623.) 1932-1945. 619f. Price: Microfilm - $6.00 - Enlargement prints - $61.00
This reel was prepared by FIAT investigators in Germany. Individual items are listed below and will be available as enlargement prints. Please include PB and frame numbers when ordering individual items. In German.

Frames	Title	Price
1-15 PB L 70149	List of valid German patents giving number, date of application and short summary of the subject matter in each. In German.	$1.50

16-17 PB L 70149 — PEUSSNER, OTTO (Inventor) Platinum metal alloys and tempering method. German Patent 535 688, dated Nov 5, 1931. Application H 115335 VI/40b, dated Feb 18, 1928. In German. 1.50

18-20 PB L 70149 — KRÖNER, ARTHUR (Inventor) Method for manufacturing pipes or other hollow bodies of quartz and other materials difficult to melt. German Patent 543 957, dated Feb 12, 1932. Application H 115462 VI/32a, dated Mar 1, 1928. In German. 1.50

21-23 PB L 70149 — KRÖNER, ARTHUR (Inventor) Method and production of quartz glass practically free from streaks. German Patent 567 863, dated Jan 11, 1933. Application H 129594 VI/32a, dated Nov 29, 1931. In German. 1.50
Drawing included.

24-27 PB L 70149 — PEUSSNER, OTTO (Inventor) Method and installation for spark spectrum analysis. German Patent 589 653, dated Dec 22, 1934. Application H 126542 IX/42 l, dated Apr 19, 1931. In German. 1.50
Drawings included.

28-29 PB L 70149 — JEDELE, ALFRED (Inventor) Method for producing very hard formed pieces of precious metal. German Patent 592 558, n.d. Application H 127788 VI/40d, dated Jul 16, 1931. In German. 1.50

30-33 PB L 70149 — Hard and acid proof alloy of white color particularly for the manufacture of pen points. German Patent 608 342, n.d. Application H 132037 VI/40b, n.d. In German. 1.50

34-36 PB L 70149 — Method of spark spectroanalysis. German Patent 613 185, dated Mar 15, 1935. Application H 129590 IX/42 l, dated Nov 27, 1931. In German. 1.50
Addition to patent 589 653. Drawings included.

37-39 PB L 70149 — Installation for spark spectral analysis. German Patent 613 186, dated May 15, 1935. Application H 137807 IX/42 l, dated Oct 20, 1933. In German. 1.50
Addition to patent 589 653. Drawings included.

40-42 PB L 70159 — Installation for spark spectral analysis. German Patent 616432, dated Jul 30, 1935. Application illegible; IX/42 l, dated Mar 4, 1934. In German. 1.50
Addition to patent 589653. Drawings included.

43-44 PB L 70149 — JEDELE, ALFRED (Inventor) Method for melting point grains of a hard metal alloy on gold pens. German Patent 611305, dated Mar 28, 1935. Application H 138104 I/49 h, dated Nov 12, 1933. In German. 1.50

45-46 PB L 70149 — Very hard specially shaped pieces of precious metal. German Patent 611709, dated Apr 3, 1935. Application H 130446 VI/ 40 b, dated Feb 2, 1932. In German. 1.50

47-48 PB L 70149 — Naturally hard shaped pieces of palladium silver alloys. German Patent 621152, dated Nov 2, 1935. Application H 140242 VI/40 b, dated Mar 4, 1933. In German. 1.50

49-51 PB L 70149 — PEUSSNER, OTTO (Inventor) Platinum silver alloys. German Patent 632284, dated Jul 6, 1936. Application H 140570 VI/40 d, dated Jul 4, 1934. In German. 1.50
Groups included.

52-54 PB L 70149 — KRÖNER, ARTUR (Inventor) Method for melting pipes and other shaped pieces of quartz and other materials difficult to melt. German Patent 639 258, dated Jul 13, 1938. Application H 142286 VI/32 d, dated Jan 1, 1935. In German. 1.50
Drawings included.

55-58 PB L 70149 — PEUSSNER, OTTO and JEDELE, ALFRED (Inventors) Method of tempering quaternary silver-palladium alloys. German Patent 644833, dated May 10, 1937. Application H 131781 VI/40 d, dated May 15, 1932. In German. 1.50
Drawings included.

59-60 PB L 70149 — JEDELE, ALFRED (Inventor) Tough tungsten alloys for gold pen points. German Patent 650114, dated Sep 11, 1937, Application H 132183 VI/40 b, dated Jun 17, 1932. In German. 1.50

61-62 PB L 70149 — BRÜNING, HANS (Inventor) Safety device for areas and chambers exposed to the danger of explosion. German Patent 663101, dated Jul 29, 1938. Application H 148384 V/82 n, dated Jul 30, 1936. In German. 1.50

63-64 PB L 70149 — Shaped pieces of silver-palladium alloys. German Patent 664757, dated Sep 17, 1938. Application H 135838 VI/40 b, dated Apr 5, 1933. In German. 1.50

65-66 PB L 70149 — BRÜNING, HANS (Inventor) Safety device for areas and chambers exposed to the danger of explosion. German Patent 665088, dated Sep 19, 1938. Application H 148548 V/82 n, dated Aug 13, 1936. In German. 1.50
Addition to patent 663101.

67-68 PB L 70149 — RUTHARDT, KONRAD (Inventor) Platinum alloys. German Patent 670897, dated Jan 27, 1939. Application H 149860 VI/40 b, dated Dec 10, 1936. In German. 1.50

69-70 PB L 70149 — Use of gold alloys for spinnerets. German Patent 671633, dated Jun 1, 1940. Application H 146980 VI/40 b, dated Mar 13, 1936. In German. 1.50

71-73 PB L 70149 — Electrically heated drying chamber and incubator with automatic temperature regulating device particularly for laboratory purposes. German Patent 672753, dated Mar 9, 1939. Application H 140136 IX/42, dated Mar 19, 1934. In German. 1.50
Drawings included.

74-75 PB L 70149 Beryllium gold alloys. German Patent 674933, dated Apr 25, 1939. Application B 166530 VI/40 b, dated Aug 17, 1934. In German. 1.50

76-77 PB L 70149 BURKHARD, MAX (Inventor) Fluxing agent. German Patent 676674, dated Jun 9, 1939. Application H 152461 VI/40 a, dated Jul 29, 1937. In German. 1.50

78-80 PB L 70149 Door for muffle furnaces. German Patent 684170, dated Nov 23, 1939. Application H 147947 VI/18 c, dated Jun 6, 1936. In German. 1.50 Drawings included.

81-82 PB L 70149 Alloys for pen points. German Patent 685270, dated Dec 15, 1939. Application H 134904 VI/40 b, dated Jun 20, 1933. In German. 1.50

83-85 PB L 70149 RUTHARDT, KONRAD (Inventor) Use of gold alloys for rayon spinnerets. German Patent 691061, dated May 15, 1940. Application H 144425 VI/40 b, dated Jul 24, 1935. In German. 1.50 Graphs included.

86-87 PB L 70149 AUWÄRTER, MAX (Inventor) Light-diminishing body. German Patent 697804, dated Oct 18, 1940. Application H 148976 IX/ 42 h, dated Dec 11, 1936. In German. 1.50

88-89 PB L 70149 AUWÄRTER, MAX (Inventor) Manufacture of glass free of tension. German Patent 697835, dated Oct 18, 1940. Application H 156074 VI/32 a, dated Jun 5, 1938. In German. 1.50

90-91 PB L 70149 BAUER, GEORG and RUTHARDT, KONRAD (Inventors) Method of determining ash in organic materials. German Patent 699238, dated Nov 25, 1940. Application H 152792 IX b/ 42 l, dated Aug 28, 1937. In German. 1.50

92-93 PB L 70149 BAUER, GEORG (Inventor) Method of determining ash in materials containing phosphorus. German Patent 700074, dated Dec 12, 1940. Application H 154529 IX b/42 l, dated Jan 28, 1938. In German. 1.50 Addition to patent 699238.

94-96 PB L 70149 AUWÄRTER, MAX and RUTHARDT, KONRAD (Inventors) Method for the analysis of gas. German Patent 704098, dated Mar 22, 1941. Application H 156075 IX b/42 l, dated Jun 5, 1938. In German. 1.50

97-100 PB L 70149 Method of producing hollow bodies composed of many shapes and made of viscous melting materials. German Patent 704220, dated Mar 26, 1941. Application H 142817 VI/32 n, dated Feb 19, 1935. In German. 1.50 Drawing included.

101-104 PB L 70149 AUWARTER, MAX, RUTHARDT, KONRAD and WINKLER, OTTO (Inventors) Electric contact. German Patent 707861, dated Jul 5, 1941. Application H 160718 VI/40 b, dated Oct 4, 1939. In German. 1.50 Drawing included.

105-107 PB L 70149 Method of exciting spectra. German Patent 709179, n. d. Application H 153754, n. d. In German. 1.50

108-109 PB L 70149 BURKHARDT, MAX, JEDELE, ALFRED and RUTHARDT, KONRAD (Inventors) Pens. German Patent 709336, dated Aug 13, 1941. Application H 155172 VI/40 b, dated Mar 19, 1938. In German. 1.50

110-111 PB L 70149 RUTHARDT, KONRAD and AUWÄRTER, MAX (Inventors) Weatherproof mirror of high reflecting power. German Patent 713006, dated Oct 30, 1941. Application H 148696 VI/48 b, dated Sep 1, 1936. In German. 1.50

112-116 PB L 70149 KRÖNER, ARTUR (Inventor) Method and installation for manufacturing fine yarn of quartz-glass. German Patent 716511, dated Jan 22, 1942. Application H 150831 VII/32 a, dated Mar 2, 1937. In German. 1.50 Drawings included.

117-119 PB L 70149 BAUER, GEORG and KRONER, ARTUR (Inventors) Catalyst for combustion without flames. German Patent 716852, dated Jan 30, 1942. Application H 150186 IV b/12 g, dated Jan 9, 1937. In German. 1.50

120-121 PB L 70149 AUWÄRTER, MAX and RUTHARDT, KONRAD (Inventors) Electric devices. German Patent 720071, dated Apr 23, 1942. Application H 150873 VI/48 b, dated Mar 3, 1937. In German. 1.50

122-124 PB L 70149 RUTHARDT, KONRAD (Inventor) Electric contact. German Patent 720500, dated Mar 7, 1942. Application H 157637 VIII c/21 g, dated Nov 10, 1938. In German. 1.50 Drawing included.

125-126 PB L 70149 AUWÄRTER, MAX (Inventor) Electric condenser. German Patent 722287, dated Jul 7, 1942. Application H 154155 VIII c/21 g, dated Dec 28, 1937. In German. 1.50

127-130 PB L 70149 PFEILSTICKER, KARL (Inventor) Method for the electric excitation of spectra. German Patent 725617, dated Sept 25, 1942. Application H 163329 IX a/42 h, dated Oct 1, 1940. In German. 1.50 Drawing included.

131-134 PB L 70149 BRÜNING, HANS (Inventor) Electrically heated lacquer drying box with ventilator. German Patent 725728, dated Sep 28, 1942. Application H 162800 V/82 a, dated Jun 29, 1940. In German. 1.50 Drawings included.

135-136 PB L 70149 AUWÄRTER, MAX, RUTHARDT, KONRAD and WINKLER, OTTO (Inventors) Electric contact. German Patent 727512, dated Nov 5, 1942. Application H 161077 VIa/40 b, dated Nov 30, 1939. In German. 1.50

137-141 PB L 70149 AUWÄRTER, MAX, JEDELE, ALFRED and RUTHARDT, KONRAD (Inventors) Method for producing the orifice of a spinneret for the manufacture of yarn or glass fibers. German

Patent 729691, dated Dec 21, 1942. Application H 157073 VI b/32 n, dated Sep 14, 1938. In German. 1.50
Drawing included.

142-143 PB L 70149 HERAEUS, WILHOLM HEINRICH (Inventor) Method for producing metal gauze of platinum rhodium wires used as catalysts for the combustion of ammonia. German Patent 734815, dated Apr 29, 1943. Application H 143189 IV b/12 i, dated Mar 24, 1935. In German. 1.50

144-145 PB L 70149 BURKHARDT, MAX (Inventor) Method of preventing steam from admitting during the transformation of plastic artificial resin compounds consisting of solid polymers and liquid polymerizing substances, due to heat treatment, for dental purposes of hollow plaster molds, etc. German Patent 736820, dated Jun 23, 1943. Application H 158803 IX a/30 b, dated Mar 1, 1939. In German. 1.50

146-147 PB L 70149 JEDELE, ALFRED and RUTHARDT, KONRAD Use of platinum alloys for dental purposes. German Patent 740572, dated Oct 23, 1943. Application H 160734 VI/40 b, dated Oct 11, 1939. In German. 1.50

148-151 PB L 70159 Method for shading artificial teeth of resin. German Patent 740759, n. d. Application H 163853 IX a/30b, n. d. In German. 1.50

152-156 PB L 70149 Method for spectral analysis. German Patent 741126, n. d. Application H 162438 IXa/42 h, n. d. In German. 1.50
Drawings included.

157-158 PB L 70149 JEDELE, ALFRED and RUTHARDT, KONRAD (Inventors) Use of platinum alloys for objects exposed to molten silicates. German Patent 743403, dated Dec 24, 1943. Application H 163368 VIa/40b, dated Oct 11, 1939. In German. 1.50

159-161 PB L 70149 Alloys for rheostats and potentiometers. German Patent 744506, n. d. Application H 166389 VI/40 b, n. d. In German. 1.50

162-163 PB L 70149 WINKLER, OTTO (Inventor) Use of gold alloys for spinnerets. German Patent 745474, dated Mar 13, 1944. Application H 165779 VIa/40 b, dated Jul 6, 1941. In German. 1.50

164-165 PB L 70149 Method of producing metal gauze from pure platinum. German Patent 746733, dated Aug. 21, 1944. Application H 143236 IVb/12, dated Mar 27, 1935. In German. 1.50
Addition to patent 734815.

166-168 PB L 70149 AUWÄRTER, MAX and RUTHARDT, KONRAD (Inventors) Gold alloys for wedding rings. German Patent 750343, dated Jan 9, 1945. Application H 151461 VIa/40 b, dated Apr 24, 1937. In German. 1.50

169-172 PB L 70149 LUCAS, RICHARD (Inventor) Process for the manufacture of compound metals. German Patent 751469, dated Nov 24, 1939. In German. 1.50

173-175 PB L 70149 Resistances and potentiometers consisting of Au-Pd-Fe-alloys. German Patent 754494, dated Sep 27, 1941. In German. 1.50

176-177 PB L 70149 Spinnerets. German Patent 754903, dated Jan 23, 1942. In German. 1.50

178-180 PB L 70149 Acid bath for the galvanic production of brilliant palladium coatings. German Patent 756048, dated May 13, 1942. In German. 1.50

181-184 PB L 70149 Jewelry. German Patent 756153, dated Dec 27, 1938. In German. 1.50

185-188 PB L 70149 Contacts and contact springs. German Patent 757159, dated Sept 23, 1939. In German. 1.50

189-192 PB L 70149 Method of eliminating discoloring phenomena during polymerisation in water containing molds (plaster molds) for dental and other purposes. German Patent 757116, dated Aug 10, 1939. In German. 1.50

193-196 PB L 70149 Gold containing alloys. German Patent 757876, dated Oct 5, 1939. In German. 1.50

197-201 PB L 70149 Forming benches. German Patent 758405, dated Jan 30, 1940. In German. 1.50

202-206 PB L 70149 Electrical contact for weak currents. German Patent 759254, dated Jan 27, 1941. In German. 1.50

207-211 PB L 70149 Mounting of aluminum tanks. German Patent 759431, dated Feb 3, 1941. In German. 1.50

212-216 PB L 70149 Safety device against explosion. German Patent 55840, dated Oct 1939. In German. 1.50

217-219 PB L 70149 Tooth Pin. German Patent application H 132 673/30b, dated Jul 28, 1932. In German. 1.50

220-227 PB L 70149 Production of metallic surface layers. German Patent application H 149 875 VI/48 b, dated Dec 10, 1936. In German. 1.50

228-230 PB L 70149 Surface mirror. German Patent application H 155 365 VI/48 b, dated Apr 4, 1938. In German. 1.50

231-232 PB L 70149 Production of metallic surface layers. German Patent application H 155 516 VI/48 b, dated Apr 16, 1938. In German. 1.50
Addition to patent H 149 875 VI/48 b.

233-237 PB L 70149 Method for recovering precious metals which become dust or vapor when applying technical processes. German Patent application H 156745 VI/40 a, dated Aug 6, 1938. In German. 1.50

238-240 PB L 70149 Method of eliminating vapor during the transformation of plastic resin mixtures from solid polymers and liquid polymerizing material by means of heat treatment for dental purposes in hollow plaster

molds. German Patent 764841, dated May 10, 1939. In German. 1.50
Addition to application H 158 803 IXa/30 b.

241-243 PB L 70149 Hardness stable and acid proof alloy. German Patent application H 160746 VI/40 b, dated Oct 12, 1939. In German. 1.50

244-255 PB L 70149 Spinneret. German Patent application H 160 835 VI/40 d, dated Oct 24, 1939. In German. 1.50

254-256 PB L 70149 Heating apparatus. German Patent application H 161 078 V/36 b, dated Nov 29, 1939. In German. 1.50

257-260 PB L 70149 Method of eliminating vapor during the transformation of plastic resin mixtures from solid polymers and liquid polymerizing material by means of heat treatment used for dental purposes in hollow molds. German Patent 765668, dated Dec 14, 1939. In German. 1.50
Addition to application H 158 803 IX/30 b.

261-264 PB L 70149 Method of eliminating discoloring phenomena and bubbles during polymerization in water containing molds (plaster molds) for dental and other purposes. German Patent application H 161 187 IX a/30 b, dated Dec 16, 1939. In German. 1.50
Addition to application H 160 378 IXa/30 b.

265-267 PB L 70149 Catalytic oven. German Patent application H 161 439 V/36 b, dated Jan 25, 1940. In German. 1.50
Addition to H 161 078 /36b.

268-272 PB L 70149 Pressing of metal objects. German Patent application H 161 493 I b/7c, dated Feb 1, 1940. In German. 1.50
Two drawings.

273-276 PB L 70149 Method of eliminating vapor during the transformation of plastic resin mixtures from solid polymers and liquid polymerising material by means of heat treatment used for dental purposes in hollow plaster molds, etc. German Patent application H 161 695 IXa/30 b, dated Feb 28, 1939. In German. 1.50
Addition to application H 158 603 IXa/30 b.

277-281 PB L 70149 Method and manufacture of plated contact rivets. German Patent application H 162 749 Ib/7c, dated Jul 19, 1940. In German. 1.50
1 drawing.

282-284 PB L 70149 Light-diminishing object. German patent application H 163 610 Ix a/57 b, dated Nov 2, 1940. In German. 1.50

285-286 PB L 70149 Potentiometer. German Patent application H 164 217 VIII b/ 21 c, dated Jan 10, 1941. In German. 1.50

287-291 PB L 70149 Method of producing objects from methacrylic methyl ester. German Patent application H 164 533 IV c/ 39 c, dated Feb 8, 1941. In German. 1.50

292-296 PB L 70149 Alloy for producing high quality and eaily weldable pen points. German Patent application H 164 560 VI/ 40 b, dated Feb 12, 1941. In German. 1.50

297-301 PB L 70149 Method of producing plated contact rivets. German Patent application H 165 739 I b/ 49i, dated Oct 3, 1940. In German. 1.50
Addition to application H 162 749 Ib/49 i.

302-307 PB L 70149 Transportable barrel. German Patent application H 165 975 XII/ 81 c, dated Aug 2, 1941. In German. 1.50

308-316 PB L 70149 Optical instruments for the ultraviolet spectrum. German Patent application H 166 373 IX a/42 h, dated Sep 30, 1941. In German. 1.50
1 diagram, 1 picture.

317-322 PB L 70149 Optical instruments for the intracted spectrum. German Patent application H 166 374 IXa/ 42 h, dated Sep 30, 1941. In German. 1.50
1 diagram.

323-324 PB L 70149 Alloys for electrical contacts. German Patent application H 166 422 VI / 40 b, dated Oct 8, 1941. In German. 1.50

325-327 PB L 70149 Process of welding pen point grains to gold pens. German Patent application H 166 667 I b/ 49 h, dated Nov 1, 1941. In German. 1.50

328-330 PB L 70149 Process for welding thin metallic containers exposed to high pressures. German Patent application H 167 020 I b/49 h, dated Dec 17, 1941. In German. 1.50

331-333 PB L 70149 Device for melting wires in a flame and mechanism for conveying melted material in the flame jet. German patent application H 167 090 /32 a, dated Dec 24, 1941. In German. 1.50

334-338 PB L 70149 Method of producing pen points. German Patent application H 167 152 VI a/40 b, dated Jan 2, 1942. In German. 1.50

339-344 PB L 70149 Resistance thermometer. German Patent application H 167 311 IX b/ 42 i, dated Jan 19, 1942. In German. 1.50

345-351 PB L 70149 Process of cutting hard materials. German Patent application H 167 314 XII / 67 a, dated Jan 23, 1942. In German. 1.50

352-354 PB L 70149 Method of producing electrodes for electron tubes. German Patent Application H 167 350 VI / 40 b, dated Jan 26, 1942. In German. 1.50

355-356 PB L 70149 Optical instruments for the infrared spectrum. German Patent application H 167 400 IX/42 h, dated Jan 31, 1942. In German. 1.50
Addition to H 166 374 IX a/ 42 h.

357-358 PB L 70149 Optical instruments for the ultraviolet spectrum. German Patent application H 167 401 / 42 h, dated Jan 31, 1942. In German. 1.50
Addition to H 166 373 IX a 42 h.

359-363 PB L 70149 Spinneret. German Patent application H 167 522 VII/ 29 a, dated Feb 12, 1942. In German. 1.50

364-367 PB L 70149 — Production of layers with good adhering qualities on the polished surface of optical parts. German Patent application H 167 596 VI / 32 b, dated February 23, 1942. In German. 1.50

368-372 PB L 70149 — Method of producing adherant protective metallic layers on hardened or non-hardened tantalum. German Patent application H 167 984 VI a/48 b, dated Apr 4, 1942. In German. 1.50

373-375 PB L 70149 — Transportable barrel. German Patent application H 168 007 XII /81 c, dated Apr 4, 1942. In German. 1.50
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376-381 PB L 70149 — Transportable boiler. German Patent application H 168 017 II/ 20 c, dated Apr 4, 1942. In German. 1.50

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387-388 PB L 70149 — Catalyst for the technical oxidation of ammonia. German Patent application H 168 405 IV b/12 i, dated May 21, 1942. In German. 1.50

389-391 PB L 70149 — Catalyst for flameless gasoline combustion in catalyst ovens. German Patent application H 168 538 IV b/12 g, dated June 1, 1942. In German. 1.50

392-397 PB L 70149 — Partly permeable mirror. German Patent application H 168 627 VI b/32 a, dated June 12, 1942. In German. 1.50

398-402 PB L 70149 — Alloys for electrical devices particularly potentiometers. German Patent application H 169 186 VI a/40 b, dated Aug 12, 1942. In German. 1.50

403-406 PB L 70149 — Alloys for electrical devices particularly potentiometers. German Patent application H 169 402 VI a/40 b, dated Sep 9, 1942. In German. 1.50
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407-410 PB L 70149 — Thermometer tube made from silicium dioxide. German Patent application H 170 001 VI b/32 a, dated Nov 14, 1942. In German. 1.50
1 drawing.

411-420 PB L 70149 — Method and installation for plating non-metallic cylinder surfaces particularly for the production of sonic band stamping matrices. German Patent application H 170 282 VI a/48 a, dated Dec 15, 1942. In German. 1.50

421-423 PB L 70149 — Anodes for producing "Per" compounds. German Patent application H 170 343 IV b, dated Dec 22, 1942. In German. 1.50
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424-428 PB L 70149 — Method of producing bi-metal objects. German Patent application H 170 464 I b/49 l, dated Jan 7, 1942. In German. 1.50
4 drawings.

429-432 PB L 70149 — Spinneret head. German Patent application H 170 568 VII/29 a, dated Jan 21, 1942. In German. 1.50
2 drawings.

433-437 PB L 70149 — Protective coating particularly on surface layers of metallic mirrors. German Patent application H 170 722 VI a/48 b, dated Feb 6, 1943. In German. 1.50

438-448 PB L 70149 — Surface protection of metals. German Patent application H 170 749 - 48 d, dated Feb 8, 1942. In German. 1.50

449-457 PB L 70149 — Production of surface layers by evaporating in a high vacuum. German Patent application H 170 750 VIa/48 b, dated Feb 8, 1942. In German. 1.50

458-462 PB L 70149 — Production of electrical contacts. German Patent application H 170 866 VIII c/ 21 g, dated Feb 17, 1943. In German. 1.50
16 drawings.

463-468 PB L 70149 — Electrodes for producing "per" compounds. German Patent application H 171 432 IV b/ 12 i, dated Apr 21, 1943. In German. 1.50
1 drawing.

469-476 PB L 70149 — Production of contact rivets. German Patent application H 171 501 I b/ 49 i, dated May 3, 1943. In German. 1.50

477-480 PB L 70149 — Reflection reducing layer. German Patent application H 171 936 VI b/ 32 b, dated June 26, 1943. In German. 1.50

481-483 PB L 70149 — Alloys for parts of electric devices. German Patent application H 171 937 VI/40 b, dated June 26, 1943. In German. 1.50

484-487 PB L 70149 — Surface improvement of metals melting at high temperatures. German Patent application H 171 971 VI a/ 48 b, dated June 29, 1943. In German. 1.50

488-495 PB L 70149 — Light filter. German Patent application H 172 142 IX a/57 b, dated Jul 23, 1943. In German. 1.50
1 diagram.

496-497 PB L 70149 — Gold alloy. German Patent application H 172 153 VI a/40 b, dated Jul 23, 1943. In German. 1.50

498-501 PB L 70149 — Production of precision tools particularly precision gauge blocks. German Patent application H 172 160 IX b/ 42 h, dated Jul 23, 1943. In German. 1.50

502-506 PB L 70149 — Precision gauge block. German application H 172 331 IX b/ 42 b, dated Aug 19, 1943. In German. 3 drawings. 1.50

507-510 PB L 70149 — Manufacture of heat resistant electric insulating material. German Patent application H 172 531 VIII b/ 21 c, dated Sep 19, 1943. In German. 1.50

511-514 PB L 70149 — Protecting mask for operations at high temperatures. German Patent application H 172 532 IX / 30 d, dated Sept 23, 1943. In German. 2 drawings. 1.50

515-518 PB L 70149 — Method of cutting hard materials. German Patent application H 172 842 XV/ 67 a, dated Nov 3, 1943. In German. Addition to Patent H 167 314 XII/ 67 a. 1.50

519-522 PB L 70149 — Process of cutting by means of grinding. German Patent application H 172 843 XII / 67 a, dated Nov 3, 1943. In German. 1.50

523-526 PB L 70149 — Spinneret head. German Patent application H 172 857 VII / 29 a, dated Nov 8, 1943. In German. Addition to Patent application H 170 568 VII/ 29 a. 1.50

527-530 PB L 70149 — Device for drawing metal. German Patent Application H 172 907 I b / 7 b, dated Nov 15, 1943. In German. 2 drawings. 1.50

531-534 PB L 70149 — Wires for electrodes for the production of "per" compounds. German Patent application H 173 171 IV b/ 12 i, dated Dec 23, 1943. In German. 1.50

535-540 PB L 70149 — Method for the production of plated contact rivets. German Patent application H 173 205 I b/49 i, dated Dec 29, 1943. In German. 4 drawings. 1.50

541-548 PB L 70149 — Method for the production of plated contact rivets. German Patent application H 173 215 I b/ 49 i, dated Jan 4, 1944. In German. 5 drawings. 1.50

549-551 PB L 70149 — Method for the production of plated contact rivets. German Patent application H 173 216 I b/ 49 i, dated Jan 4, 1944. In German. 4 drawings. 1.50

552-557 PB L 70149 — Rotary cutter. German Patent application H 173 514 I b/ 49 c, dated Feb 18, 1944. In German. 2 drawings. 1.50

558-561 PB L 70149 — Method for the production of easily drawn hard tantalum sheet metal. German Patent application H 173 618 VI a /40 d, dated Mar 3, 1944. In German. 1.50

562-567 PB L 70149 — Method of edging small metallic objects particularly contact rivets. German Patent application H 173 634 I B/ 49 i, dated Mar 6, 1944. In German. 1 drawing. 1.50

568-570 PB L 70149 — Method for the production of objects exposed to chemical actions particularly the effect of alkalies or chemically active hydrogen. German Patent application H 173 642 IV b/ 12 f, dated Mar 3, 1944. In German. 1.50

571-573 PB L 70149 — Alloys for potentiometers. German Patent application H 174 125 VI a/ 40 b, dated May 9, 1944. In German. Addition to Patent appli cation H 169 186 VI a/ 40b. 1.50

574-576 PB L 70149 — Alloys for potentiometers. German Patent application H 174 146 VI a / 40 b, dated May 9, 1944. In German. Addition to Patent application H 171 937 VIII b/ 21 c. 1.50

577-579 PB L 70149 — Gold alloy. German Patent application H 174 202 VI a/ 40 b, dated May 30, 1944. In German. 1.50

580-582 PB L 70149 — Method of producing perfect layers by means of evaporation in a high vacuum. German Patent application H 174 584 VI b/ 32 b, dated Jul 31, 1944. In German. 1.50

583-585 PB L 70149 — Method of producing perfect coatings by means of evaporation of cathodic sputtering. German Patent application H 174 695 VIII c/ 21 g, dated Aug 18, 1944. In German. 1.50

586-588 PB L 70149 — Vacuum evaporating method of metals particularly silver. German Patent application H 174 785 VI a/ 48 b, dated Sep 11, 1944. In German. 1.50

589-595 PB L 70149 — Evaporation source for producing evaporation layers. German Patent application H 174 858 VI a/ 48 b, dated Sep 11, 1944. In German. 1.50

596-599 PB L 70149 — Method of evaporating non-metallic layers of increased mechanical resistivity and corrosion protective effect. German Patent application H 175 016 VI a/ 48 b, dated Oct 16, 1944. In German. 1.50

600-607 PB L 70149 — Electrically heated devices. German Patent application Wiesbaden No. 1159, dated Dec 5, 1945. In German. 4 drawings. 1.50

608-612 PB L 70149 — Electrical contact for vibrating devices. German Patent 764 170, dated Dec 12, 1941. In German. 1.50

613-616 PB L 70149 — Method of producing electrical double contacts. German Patent 762 444, dated Dec 27, 1941. In German. 2 drawings. 1.50

617-620 PB L 70149 — Mounting of transportable boilers. German Patent 761 826, dated Nov 11, 1942. In German. 1 drawing. 1.50

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REGISTER OF PATENTS AVAILABLE FOR LICENSING OR SALE

Information on the following patents can be obtained from the U. S. Patent Office, Washington 25, D. C.

The "Groups" appearing after the patent abstracts are based on the Standard Industrial Classification Manual, Vol. I, Manufacturing Industries, Executive Office of the President, Bureau of the Budget.

Official Gazette, November 4, 1947.

Swift & Company and its subsidiaries have placed 443 of their patents on the Register of Patents as available for license at reasonable royalty. Abstracts of these patents will be published in groups each week beginning November 4, 1947. These patents cover adhesives, glue and gelatin; beef, lamb, and veal; butchering and slaughtering; casings; dairy and poultry; fats and oils; ham, bacon, and fresh pork; plant food; refrigerator cars and motor vehicles; sausage and table ready meats; soap, glycerine and cleansers; plus one group of miscellaneous patents. Detailed information concerning the patents may be obtained from Swift & Co., Union Stock Yards, Chicago, Ill.

Adhesives, Glue and Gelatin

PAT. 1,895,446. Glue product and method of preparing the same. Patented Jan. 31, 1933.
Clear bone glue solutions are produced by adjusting the acidity of the glue liquid solution to a pH of 5.0 or lower, at which degree of acidity the alkaline earths remain in the solution, but light scattering organic material present in colloidal suspension flocculates out. Group 28-94. Reg. No. 8402.

PAT. 1,895,447. Glue preparation and product. Patented Jan. 31, 1933.
A process for controlling and retarding the insolubilizing action of formaldehyde on glue and gelatin products, which involves treating the glue and gelatin with urea, or its derivatives, to solubilize the glue or gelatin. Group 28-83-94. Reg. No. 8,403.

PAT. 1,896,049. New gelatin product and method of preparing the same. Patented Jan. 31, 1933.
A gelatin dessert, and method of preparing the same, in tablet form, which contains granulated gelatin, granulated sugar, fruit acid, flavor and color bound together by a bond made up mainly of sugar. Groups 20-99; 28-94. Reg. No. 8,404.

PAT. 1,911,205. Treatment of gelatin stock. Patented May 30, 1933.
A method of treating collagen-bearing material with ammonia as a curing agent to produce an improved gelatin product therefrom. Group 28-94. Reg. No. 8,405.

PAT. 1,929,732. Gelatin product and method of preparing the same. Patented Oct. 10, 1933.
A readily soluble gelatin product comprising gelatin in gel form with flavor dissolved therein together with an ingredient, such as invert sugar, to prevent the gelatin from becoming dehydrated. Groups 20-99; 28-94. Reg. No. 8,406.

PAT. 1,950,483. Preparation of glue and the product thereof. Patented Mar. 13, 1934.
An adhesive comprising glue and urea which is liquid at lower temperatures than ordinary glue, and which is hygroscopic when dried. Group 28-83-94. Reg. No. 8,407.

PAT. 1,962,763. Adhesive and method of making same. Patented June 12, 1934.
An adhesive comprising casein, biuret and water, and the process of making the same. The casein adhesive may be hardened by treating with an aldehyde, such as formaldehyde. Groups 20-25; 28-83-94. Reg. No. 8,408.

PAT. 2,008,428. Gelatin dessert forming machine. Patented July 16, 1935.
A gelatin dessert forming machine for the manufacture of cubed gelatin dessert. Group 35-51. Reg. No. 8,409.

PAT. 2,048,728. Process for making a clear fish glue or fish gelatin solution. Patented July 28, 1936.
A process which comprises removing the non-adhesive materials from fish offal glue solution by adjusting the pH below 5.0, thereby flocculating out the organic materials present in colloidal suspension, and leaving the alkaline earths unaffected. Group 28-94. Reg. No. 8,410.

PAT. 2,108,912. Defoaming method and means. Patented Feb. 22, 1938.
A defoamer comprising wax, aluminum stearate and stearic acid, and the method of making the same. Group 28-99. Reg. No. 8,411.

PAT. 2,155,733. Gelatin. Patented Apr. 25, 1939.
A gelatin product consisting of hollow spheres of gelatin, and method of making the same. Drops of gelatin liquor are formed and coated with dried gelatin, allowed to jell and then dried. Group 28-94. Reg. No. 8,412.

PAT. 2,158,117. Gelatin treatment. Patented May 16, 1939.
A method of treating gelatin to improve the whipping quality, which comprises de-amininzing the gelatin by the addition of nitrites containing some free acid thereto. Group 28-94. Reg. No. 8,413.

PAT. 2,182,186. Glue treatment. Patented Dec. 5, 1939.
A method of bleaching glue which comprises adding thereto hydrogen peroxide and a nitrate. Group 28-89-94. Reg. No. 8,414.

PAT. 2,242,883. Treatment of gelatin. Patented May 20, 1941.
A process for improving the whipping qualities of gelatin which comprises subjecting dry gelatin to the action of artificially produced ultra-violet rays. Group 28-94. Reg. No. 8,415.

PAT. 2,265,144. Adhesive. Patented Dec. 9, 1941.
The addition of urea compound to glue to impart remoistening and rapid setting properties. Group 28-83-94. Reg. No. 8,416.

PAT. 2,290,538. Treatment of glue and gelatin. Patented July 21, 1942.
A method of increasing the yield of gelatinous material which comprises treating the gelatin stock with a dilute solution of an inorganic hydroxide, such as caustic soda containing a small amount of a water soluble soap,

removing the alkaline solution from the stock and thereafter extracting the gelatin from the treated stock. Group 28-94. Reg. No. 8,417.

PAT. 2,292,022. Treatment of gelatin. Patented Aug. 4, 1942.
A method of treating gelatin to increase the viscosity of the gelatin, which comprises refluxing gelatin in the presence of grain ethyl alcohol. Group 28-89-94. Reg. No. 8,418.

PAT. 2,292,315. Method of Curing stocks. Patented Aug. 4, 1942.
A method of handling gelatinous stock, comprising a treatment first with a solution of a water soluble salt of an alkaline earth metal and then with an alkali solution, and finally extracting the gelatinous material from the stock. Group 28-94. Reg. No. 8,419.

PAT. 2,292,316. Curing glue stock. Patented Aug. 4, 1942.
A method of preparing high test gelatinous material from bones, which comprises heating the bones in a dilute solution of a water soluble soap, separating the solution from the bones, and thereafter extracting the gelatinous material from the bones. Group 28-94. Reg. No. 8,420.

PAT. 2,300,740. Method of curing glue stock. Patented Nov. 3, 1942.
A method of preparing high test gelatinous material from bones by heating the bones in a dilute aqueous solution of salts of metals whose oxides and hydroxides are soluble in excess alkali, such as zinc sulphate, separating the salt solution from the bones, washing the bones and then extracting the gelatinous material therefrom. Group 28-94. Reg. No. 8,421.

PAT. 2,309,340. Method of curing gelatinous material stock. Patented Jan. 26, 1943.
The treatment of gelatinous stock with an alkaline solution of a water soluble salt of a metal whose oxide or hydroxide is soluble in excess alkali, such as sodium aluminate, sodium stannate and sodium zincate, to produce a high test gelatin product from the stock material. Group 28-94. Reg. No. 8,422.

PAT. 2,327,185. Method of extracting glue and gelatin. Patented Aug. 17, 1943.
A method of producing high test gelatinous material wherein gelatinous stock, such as pork skins, are treated with a peptizing or liquefying agent to extract the gelatinous material, and then the gelatinous material is separated from the peptizing or liquefying agent. Group 28-94. Reg. No. 8,423.

PAT. 2,334,607. Peptizing agent. Patented Nov. 16, 1943.
A method of peptizing casein with neutral soluble salts of certain dibasic acids, such as phthalic, and the substituted derivitives and imides thereof. Group 20-25. Reg. No. 8,424.

PAT. 2,346,880. Gelatin preparation. Patented Apr. 18, 1944.
A method of, and apparatus for, irradiation of gelatin with ultraviolet light during drying to destroy bacteria and molds. Group 28-94. Reg. No. 8,425.

PAT. 2,368,393. Gelatin. Patented Jan. 30, 1945.
A process for the manufacture of gelatin from aqueous solution thereof, which comprises concentrating the solution, incorporating in the concentrated solution a buffer salt of the class of sodium, potassium and ammonium salts of citric and tartaric acids, filtering the mixture and recovering the modified gelatin product therefrom. Group 28-94. Reg. No. 8,426.

PAT. 2,379,065. Gelatinous material. Patented June 26, 1945.
A method of producing glue of increased viscosity, which comprises adding to the glue and aqueous solution of deacetylated chitin. Group 28-94. Reg. No. 8,427.

PAT. 2,384,673. Method of extracting glue and gelatin. Patented Sept. 11, 1945.
A method of producing high test gelatin which comprises subjecting gelatinous stock to the action of an aqueous solution of the peptizing agents, urea, thiourea and formamide to extract the glue and gelatin from the stock. Group 28-94. Reg. No. 8,428.

PAT. 2,392,297. Method of making finely divided gelatin products. Patented Jan. 1, 1946.
A process of making finely divided gelatin products in discrete non-adhering particles wherein a volatile refrigerant, such as solid carbon dioxide, is directly admixed with the gelatin and the gelatin is ground. Group 28-94. Reg. No. 8,429.

PAT. 2,397,650. Manufacture of glue. Patented Apr. 2, 1946.
A countercurrent process of, and apparatus for, economically removing tanning agents from leather waste, thus conditioning it for the extraction of glue therefrom. Group 28-94. Reg. No. 8,430.

Beef, Lamb and Veal

PAT. 1,846,744. Beef chilling support. Patented Feb. 23, 1932.
A beef chilling rack for holding sides of beef in various predetermined positions while chilling, Group 35-51. Reg. No. 8,431.

PAT. 1,849,407. Method and means for marking meat. Patented Mar. 15, 1932.
A method of branding food carcasses by causing the carcass to move over and bear down on a rotary punctiform brand, whereby the brand is rotated and the carcass is branded. Group 39-53. Reg. No. 8,432.

PAT. 1,849,457. Means for preparing meat for market. Patented Mar. 15, 1932.
A mold comprising a plurality of sections shaped to the form of conventional cuts of meat, such as loins, and provided with means for chilling the meat contained in the sections. Group 35-51. Reg. No. 8,433.

PAT. 1,863,743. Meat hanging method. Patented June 21, 1932.
A method of hanging wholesale cuts of meat in such manner that any pivotal swinging is at the point of support of the hanger. Group 35-51. Reg. No. 8,434.

PAT. 1,866,510. Meat press. Patented July 5, 1932.
A device for producing cakes of hamburger steak or other comminuted food products. Group 35-51. Reg. No. 8,435.

PAT. 1,878,297. Apparatus for processing foodstuffs with fluid currents. Patented Sept. 20, 1932.
An apparatus for more efficient refrigeration of food products comprising improved layout of air passages. Group 35-51-84. Reg. No. 8,436.

PAT. 1,888,446. Meat press. Patented Nov. 22, 1932.
A press comprising a forming chamber with a cooperating plunger provided with side adjusting means. Group 35-51. Reg. No. 8,437.

PAT. 1,889,686. Meat hasher. Patented Nov. 29, 1932.
An improvement in the construction of the receiving bowl of meat hashers whereby manual or mechanical means for forcing the meat into engagement with the screw are made unnecessary and the safety of the device is increased. Group 35-51. Reg. No. 8,438.

PAT. 1,890,458. Food press. Patented Dec. 13, 1932.
A simplified food press especially adaptable for hamburgers, including a compressing box, a plunger, an ejector and connecting means between the plunger and ejector. Group 35-51. Reg. No. 8,439.

PAT. 1,902,512. Combination conveyor and scale. Patented Mar. 21, 1933.
A conveyor providing for a weighing operation without interrupting the travel of the meat upon the conveyor. Group 35-74. Reg. No. 8440.

PAT. 1,950,763. Method of packing meat. Patented Mar. 13, 1934.
A method of producing a meat product such as hamburger which comprises molding the comminuted meat product, freezing sufficiently to permit removal of the product from the mold without altering the form of the meat, wrapping the meat product and subsequently freezing it solid. Group 35-51-84. Reg. No. 8,441.

PAT. 1,962,799. Cattle skinning cradle. Patented June 12, 1934.
A cattle skinning cradle designed to hold a beef carcass in proper position for removal of the hide, having two parallel wings of great height at one end, succeeded by three lower portions of successively increasing height. Group 35-51. Reg. No. 8,442.

PAT. 1,968,384. Shaping means. Patented July 31, 1934.
An attachment for a hamburger press comprising a compression box and means for pressing and frenching meat. Group 35-51. Reg. No. 8,443.

PAT. 1,969,922. Method for curing hides and skins. Patented Aug. 14, 1934.
A method of curing animal skins and hides which comprises salting both sides of the hide, then placing the skins in a cylindrical wringer to increase the saturation of the curing material in the skin. Group 20-12. Reg. No. 8,444.

PAT. 2,009,587. Meat treating method and means. Patented July 30, 1935.
A method and means for preserving the natural flesh color appearance and condition of cut surfaces of fresh meat with a coating comprising a fabric impregnated with an essential oil having germicidal properties. Group 20-11. Reg. No. 8,445.

PAT. 2,017,504. Refrigerated container. Patented Oct. 15, 1935.
A container with self-contained refrigerating means, such that the package may be shipped in non-refrigerated vehicles. Group 35-84. Reg. No. 8,446.

PAT. 2,040,149. Method of branding lamb and the like. Patented May 12, 1936.
A method of marking carcasses which consists in positively injecting pigment beneath the surface covering of fel in dotted arrangement according to a chosen design of brand. Group 39-54. Reg. No. 8,447.

PAT. 2,062,734. Means for forming meats and the like. Patented Sept. 1, 1936.
A compression device for forming frozen perishable products into consumer packages, comprising a revolving drum containing a plurality of compression boxes of various sizes and shapes. Group 35-84. Reg. No. 8,448.

PAT. 2,060,423. Treatment of frozen meat. Patented Nov. 10, 1936.
A method of defrosting meats comprising the steps of circulating thereover air saturated with steam until the meat is thawed and thereafter decreasing the temperature and humidity and continuing the circulation to permit absorption of the surface moisture by the heat and to improve the appearance. Group 20-11. Reg. No. 8,449.

PAT. 2,083,765. Meat branding. Patented June 15, 1937.
A method of marking edible carcasses which consists in applying thereto immediately after the hide or skin has been removed, a strip of regenerated cellulose bearing identifying marks. Groups 28-83; 39-54. Reg. No. 8,450.

PAT. 2,108,921. Pizzle removal method. Patented Feb. 22, 1938.
A method of removing the pizzle cord involving the step of coring out the base portion of the pizzle between the scrotum and the bladder. Group 20-11. Reg. No. 8,451.

PAT. 2,109,574. Extrusion nozzle. Patented Mar. 1, 1938.
An extrusion nozzle or stuffing horn in which a comminuted meat product under pressure is forced through an elevated, graduated passageway in a manner preventing the formation of air pockets therein. Group 35-51. Reg. No. 8,452.

PAT. 2,140,150. Carcass treatment means. Patented Dec. 13, 1938.
A device for the treatment of animal carcasses, including means for securing the neck and foreshanks in relatively retracted position, comprising a substantially T shaped 3-point hook member. Group 35-51. Reg. No. 8,453.

PAT. 2,158,106. Carcass treatment. Patented May 16, 1939.
A method of treating animal carcasses wherein a three point hood member is inserted between the spinal cord cavity and the foreshanks of the carcass to improve the muscular formation and bone positions of the fore quarter cuts. Group 35-51. Reg. No. 8,454.

PAT. 2,182,190. Meat wrapping method. Patented Dec. 5, 1939.
A method of treating edible animal carcasses which comprises covering the surface of the meat with moist paper and thereafter enclosing the covered meat with an outer wrapping. Group 20-11. Reg. No. 8,455.

PAT. 2,182,203. Meat marking. Patented Dec. 5, 1939.
A method of marking edible carcasses, which comprises first wiping the surface of the carcass to remove excess moisture and then applying a strip of regenerated cellulose bearing identifying marks. Groups 28-83; 39-54. Reg. No. 8,456.

PAT. 2,190,420. Calf feeder. Patented Mar. 13, 1940.
a feeding device for calves and other nursing animals comprising a milk holding bag with attached valved nipple. Groups 23-94; 30-51. Reg. No. 8,457.

PAT. 2,202,951. Treatment of beef carcasses. Patented June 4, 1940.
A method of branding beef carcasses which comprises applying a cloth to the surface before the carcass has lost its animal heat, removing the cloth after the surface is chilled, applying a transparent cellulose brand, and then covering the branded carcass with a second cloth. Groups 20-11; 22-11. Reg. No. 8,458.

PAT. 2,214,153. Method of treating carcasses. Patented Sept. 10, 1940.
A method of treating carcasses which comprises applying to the surface of the carcass two layers of brine moistened cloth before freezing, placing the carcass in a humidor bag, and freezing the carcass. Groups 20-11; 22-11. Reg. No. 8,459.

PAT. 2,237,277. Meat product. Patented Apr. 1, 1941.
A method of packaging fresh meat cuts which comprises covering the outer surface of the meat cut with a brine moistened cloth and covering the brine moistened cloth with transparent cellulosic paper, whereby the cloth is held in intimate contact with the meat surface. Group 20-11. Reg. No. 8,460.

PAT. 2,238,321. Carcass spreader. Patented Apr. 15, 1941.
A carcass spreader adpated to improve the appearance of freshly chilled carcasses, having a central rod adapted to be firmly affixed at one end against the aitchbone and at an intermediate point between the briskets of the carcass, and laterally supporting members affixed to said rod for supporting the carcass foreshanks inwardly relative to the carcass neck. Group 35-51. Reg. No. 8,461.

PAT. 2,238,546. Carcass treatment. Patented Apr. 15, 1941.
A method of treating calf carcasses to improve the appearance of the surface which comprises hot skinning a calf carcass, applying a brine moistened cloth in contact with the skinned meat surface before dissipation of the animal heat, and encasing the clothed carcass in a moistureproof covering. Group 20-11. Reg. No. 8,462.

PAT. 2,242,300. Carcass treatment. Patented May 20, 1941.
A method of treating skinned carcasses which comprises applying a brine moistened cloth to the warm carcass, partially chilling the carcass, removing the cloth, then promptly applying a covering of transparent cellulosic material and maintaining the cellulosic material in intimate contact with the surface of the carcass. Group 20-11. Reg. No. 8,463.

PAT 2,247,425. Corned beef. Patented July 1, 1941.
A method of preparing a corned beef product, which comprises preparing a pork caul fat covered beef rool, pumping the roll with a curing agent and submerging the pumped roll in curing pickle until thoroughly cured. Group 20-11. Reg. No. 8,464.

PAT. 2,259,868. Treatment of beef carcasses. Patented Oct. 21, 1941.
A method of treating beef to preserve its bloom, which comprises covering the skinned surface with a brine moistened cloth, applying a second cloth over and in intimate contact with the first cloth, removing the second cloth after the animal heat has been dissipated, and thereafter enclosing the clothed beef in a humidor wrapper. Group 20-11. Reg. No. 8,465.

PAT. 2,266,487. Method of chilling beef. Patented Dec. 16, 1941.
A method of chilling beef which comprises suspending the carcass by the heel cord at both the front and hind shanks in such manner that the various portions of the carcass assume a natural, relaxed position. Group 20-11. Reg. No. 8,466.

PAT. 2,270,857. Carcass spreader. Patented Jan. 27, 1942.
A device for preventing distortion of carcasses during chilling comprising means for securing the device against the aitchbone, and means for spreading in opposite directions the briskets and backbone. Group 35-51. Reg. No. 8,467.

PAT. 2,271,481. Meat chilling method and apparatus. Patented Jan. 27, 1942.
A method and apparatus for supporting an animal carcass along its back edge throughout its length during the chilling period and until the carcass becomes set. Group 35-84. Reg. No. 8,468.

PAT. 2,290,493. Meat treatment. Patented July 21, 1942.
A method of aging beef cuts which comprises holding the beef cuts in oil under refrigeration until aged. Group 20-11. Reg. No. 8,469.

PAT. 2,346,907. Skins and method of dehairing. Patented Apr. 18, 1944.
A method of treating hides and skins to facilitate dehairing and dewooling comprising the addition thereto of an alkaline sodium sulphide dehairing liquor containing a small proportion of cyanamide and water soluble sompounds and derivatives of cyanamide. Groups 20-11; 28-89. Reg. No. 8,470.

PAT. 2,353,878. Dehairing skins. Patented July 18, 1944.
A method of removing hair and wool from skins which comprises subjecting the skins to the action of an aqueous alkaline medium containing lime, an alkali sulphide and a water soluble inorganic or organic material such as sodium perborate. Groups 20-11; 28-89. Reg. No. 8,471.

PAT. 2,371,875. Processing skins. Patented Mar. 20, 1945.
A method of treating hides and skins by applying thereto an alkaline sodium sulphide dehairing liquor containing a small proportion of water soluble compounds and derivatives of cyanic and thiocyanic acids. Groups 20-11; 28-89. Reg. No. 8,472.

PAT. 2,379,845. Treatment of animal carcasses. Patented July 3, 1945.
A method of treating animal carcasses, which comprises skinning the carcass, chilling the skinned carcass, cutting the chilled carcass into cuts and applying to the cuts glassine paper on which is printed the brand or other identifying indicia. Groups 20-11; 39-54. Reg. No. 8,473.

PAT. 2,384,691. Automatic sheep pelt scrubbing or cleaning machine. Patented Sept. 11, 1945.
A machine for the automatic scrubbing and cleaning of sheep pelts, having conveyor means to carry the pelt through suitable spraying and beating means such that the dirt is loosened and flushed from the hair, and for then passing the pelt through suitable wringer rolls to remove the water. Group 39-92. Reg. No. 8,474.

PAT. 2,387,221. Treatment of animal carcasses. Patented Oct. 16, 1945.
A method of treating animal carcasses to tenderize the meat by the application of heat to the major bone structure of the carcass to cause a rise in temperature of the meat and to maintain the temperature of the interior of the meat at least as high as the exterior. Group 20-11. Reg. No. 8,475.

PAT. 2,398,636. Meat treatment. Patented Apr. 16, 1946.
A method for tenderizing and knitting pieces of meat together whereby they may be cooked and eaten as steaks. Group 20-11. Reg. No. 8,476.

PAT. 2,407,620. Switch for trolley rails. Patented Sept. 10, 1946.
A device for switching overhead trolleys carrying beef carcasses from one rail to another. Group 35-51. Reg. No. 8,477.

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PB L 80878. WEINBERG, M. and WEINBERG, MARVIN. Adrenochrome. Washington, D. C., U. S. Department of Commerce, Office of Technical Services, n. d. 16 p., mimeo. Price: 75¢

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